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AN OUTLINE OF HAUSA GRAMMAR

BY

CARLETON TAYLOR HODGE

UNIVERSITY OF PENNSYLVANIA DISSERTATION

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PREFACE

The following description is based upon the speech of Mr. John Frank (Abdu Hassan) of New York City. Mr. Frank is a native of Katsina province in Northern Nigeria. The numerous grammars and collections of texts are, as far as I have examined them, of other dialects, stressing that of Kano. They have occasionally been used as guides for the interpretation of material elicited from Mr. Frank. The dictionaries note Katsina forms but have not been used as sources. The dictionary of Rev. G. P. Bargery (G. P. Bargery, A Hausa-English Dictionary and English-Hausa Vocabulary, London, 1934) has been extensively referred to, and quotations from it are noted with (BD).

ABBREVIATIONS

BD   G. P. Bargery, A Hausa-English Dictionary and English-Hausa Vocabulary, London, 1934

GHL   F. W. H. Migeod, A Grammar of the Hausa Language, London, 1914

HD   C. H. Robinson, Hausa Dictionary, Vol. I, Cambridge, 1899 (Fourth edition, 2 vols., Cambridge, 1925)

HG   C. H. Robinson, Hausa Grammar, Fifth edition 1925, reprinted London, 1942

HT   C. T. Hodge and H. E. Hause, 'Hausa Tone', Journal of the American Oriental Society 64 (1944), pp. 51, 52.

ISH   R. C. Abraham, An Introduction to Spoken Hausa and Hausa Reader for European Students, 1940

LH   A. Mischlich, Lehrbuch der Hausasprache, Berlin, 1902

MA   C. T. Hodge, 'Morpheme Alternants and the Noun Phrase in Hausa', Language 21 (1945), pp. 87–91

MGSH   R. C. Abraham, A Modern Grammar of Spoken Hausa, 1941

NPH   A. L. James and G. P. Bargery, 'A Note on the Pronunciation of Hausa', Bulletin of the School of Oriental Studies, London, Vol. 3 (1925), pp. 721–728

PH   R. C. Abraham, Principles of Hausa, Kaduna, 1934

PHP   J. H. Greenberg, 'Some Problems in Hausa Phonology', Language 17 (1941), pp. 316–323

SH   Carl Meinhof, Die Sprachen der Hamiten, Hamburg, 1912

WHS   A. Mischlich, Woerterbuch der Hausasprache, 1906

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CHAPTER I

PHONOLOGY

1.1. Phonemes. Hausa has the following phonemes:[1]
Consonants:
Voiceless   (p) t k f h s c š ?
Voiceless   k? s? c?
  glottalized
Voiced   b d g   z j m n ṛ r l
Voiced   b? d?
  glottalized
Semivowels   w y
Vowels: i e u o a
Tones: [2]   high ′ low ‛
Junctures: close (no special marker) open / ⁑ / tone phrase //

1.2. Stops

1.2.1. /t/ voiceless aspirated dental stop
> taagàà [⁵t'α:ːˡgʌ:] 'window'

/d/ voiced dental stop
> dafìì [⁵dɛːˡhi:] 'poison'

/d?/ voiced glottalized dental stop
> d²aa [⁵d?a:ː] 'child, son'

/b/ bilabial voiced stop
> bangoo [⁵bɑ·ŋgʷo:] 'wall of a house'

/b?/ bilabial glottalized voiced stop
> b²aawaa [⁵b?a:ːwa:] 'bark of a tree'

1.2.2. Labialization before /u/, /oo/. /b, b?, k, k?, g/ are [bʷ, b?ʷ, kʷ, k?ʷ, gʷ] before /u/, /oo/. This labialization is not uniformly regular but sometimes varies considerably in the same morpheme. It does not occur before /uu/.
E.g. ʔàbookii [¹ʔa·⁵bʷo::ḵi:ː] 'friend'. b²ootàà [⁵b?ʷoo::ˡt'α:] 'handle'. ʔàbùtaa 'friendship' [¹ʔa·bʷʋ·⁵t'α:ː]. kusa [⁵kʷʋːsα·] 'near'. koomii [⁵kʷo::mi:ː] 'anything'. k²udaa [⁵k?ʷʋːdα:ː] 'fly'. k²ook²ìì [⁵k?ʷo::ˡk?i:] 'a kind of insect'. gusùn [⁵gʷʋːˡsʋŋ] 'South'. gòògee [¹gʷo:·⁵ĝe:ː] 'a string instrument'.

1.2.3. Palatalization before /i, e, y/. /k/ and /g/ are [ḵ, ĝ] (i.e. slightly palatalized) before /i, e, y/.[3]
E.g. kimbaa [⁵ḵɩːmba:ː] 'black pepper'. kiifii [⁵ḵi::hi:ː] 'fish'. kèèkee [¹ḵe:·⁵ḵe:ː] 'cart'. kyànkyasòò [¹ḵyɛŋ⁵ḵyɛːˡso:] 'roach'. giširii [⁵ĝɩːšɩːṛi:ː] 'salt'. giiwaa [⁵ĝi::wa:ː] 'elephant'. geemìì [⁵ĝe::ˡmi:] 'goatee'. gyaaraa [⁵ĝyɛ::ṛa:ː] 'shaving, fixing'.

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[1] Compare BD xxi–xxiv, NPH, PHP.

[2] High tone is unmarked in phonemic writing, the sign ′ being used only in giving tone in formulae.

[3] This palatalization is a more front position of the consonant but has no strong offglide as does the speech described by others (HD xix, xx, BD xxii [n. 5], MGSH 4, PHP, NPH 723).

1.2.4. In all other positions /k, kˀ, g/ are as follows:

/k/ [kʻ] voiceless aspirated velar stop.

E.g. *kaỳ* [⁵kʻɑ·¹ᵛi] 'head'. *kay* [⁵kʻɑ·y] 'you (m.)'. *kààmaa* [¹kʻɑ·⁵mɑ·] 'a roast'. *kuusùù* [⁵kʻu·¹su·] 'rat'.

/kˀ/ [kˀ] voiceless glottalized velar stop.

E.g. *kˀafàà* [⁵kˀɑ·¹hʷɑ·] 'foot'. *lèèkˀee* [¹le·⁵kˀe·] 'peering' (noun). *kˀuugùù* [⁵kˀu·¹gu·] 'lower part of back'.

/g/ [g] voiced velar stop.

E.g. *gàngaa* [¹gɑŋ⁵gɑ·] 'drum'. *gùùluulùù* [¹gu·⁵lu·¹lu·] 'lump of clay on spindle as balance'.

1.2.5. /ˀ/ [ˀ] glottal stop.

E.g. *ˀàfoo* [¹ˀɑ·⁵ho·] 'garlic'. *šàṛiiˀàà* [¹še·⁵ṛi·¹ˀɑ·] 'court, law'. *màyfaṛˀàà* [¹mɑy⁵hʷɒṛ¹ˀɑ·] 'a jolly person'.

1.3. Glottalized consonants.

Stops. /b, d, k/ have glottalized counterparts /bˀ, dˀ, kˀ/.[4] Phonetically these latter phonemes are the corresponding stops interrupted by a glottal stop, then released, followed by the release of the glottal stop. Using vvvv for voicing, / for release, ... for the stops, and ------- for the glottal stop, we have:

/bˀ, dˀ/   --------/   /kˀ/   -------/

          ..../   ....../

     vvvv

The effect of glottalization is seen not only in the cessation of voicing but also in the nature of the release. In /bˀ/ the lips are snapped vertically apart, with no aspiration whatsoever. /dˀ/ has a similar release. In /kˀ/ the release of the [k] is very light.

Spirants. /s, c/ have glottalized counterparts /sˀ, cˀ/. In the latter [s] and [č] cease on the onset of [ˀ].

That the glottalized series are separate phonemes need not be discussed here except in regard to their being unit phonemes, not clusters of consonant plus glottal stop. Beside the phonetic unity, which is not necessarily conclusive, we have the criterion of vowel length, as well as the patterning of consonants (distribution). The glottalized series act as single consonants in that a preceding vowel in the same morpheme has the same length as it would were the corresponding simple stop there (see 1.9).

E.g. *bààkii* [¹bɑ·⁵ki·] 'mouth'. *bààkˀii* [¹bɑ·⁵kˀi·] 'strangers'. Secondly, there are no initial clusters of stop plus stop, or stop plus stop plus semivowel. These would be foreign to the whole syllabic pattern of the language. The initial clusters which do occur have semivowels (w, y) as second members of the clusters (1.14.3). Compare:

kˀyàlkˀyàlii [¹kˀyɛl‘kˀyɛ·⁵li·] 'a glittering'

kyànkyasòò [¹kyɛŋ⁵kyɛ·¹so·] 'roach'.

1.4. Spirants and affricates /f, s, sˀ, z, c, cˀ, j, š, h/.

/f/ This phoneme has a wide phonetic range. For alternation with /h/ see 2.2.6.

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[4] Compare particularly NPH 723, 724.

[ɸ] or [hʷ] before /a/ or single /u/.

E.g. *farii* [⁵hʷʌɨiː] 'a white one'. *fàaṛaa* [¹hʷaːⁱ⁵ṛaː] 'locusts'. *fušii* [⁵hʷʋ꞉ši꞉]
'anger'. *fukumcìì* [⁵ɸʋːkʋ·m¹čiː] 'rule'.

[h] before /i, e, o/ and /uu/.

E.g. *fiffikèè* [⁵hɩ·h·ɩ꞉¹ke꞉] 'wing'. *kᵖarfii* [⁵kʔa·ɨ·hiː] 'strength'. *kᵖarfèè*
[⁵kʔa·ɨ·ⁿhe꞉] 'iron'. *fòòtoo* [¹ho꞉⁵t'o꞉] 'picture'. *fùùlaa* [¹hu꞉⁵ḷaː] 'hat'.

[f], a sound very similar to English *f*, is a rarer variant before any vowel.
It is partly free.

E.g. *wòòfii* [¹wo꞉⁵hi꞉] or [¹wo꞉⁵fiː] 'a foolish one'. *fùùfuu* [¹fu꞉⁵fu꞉] 'lungs'.
fàllasàà [¹fʌḷ·⁵ɛ꞉¹sʌ꞉] 'Reveal a person's secrets and expose him to ridicule or
punishment' (BD). *fòòtoo* [¹fo꞉⁵t'o꞉] 'picture'.

[ḅ], [p] or [f] before voiceless consonant or / ⚹ /.

E.g. *tàfšee* [¹t'ap⁵še꞉], [¹t'aḅ⁵še꞉] or [¹t'af⁵še꞉] 'squash soup'. *ᵖalìf* [⁵ʔa꞉¹lɩp] or
[⁵ʔa꞉¹lɩf] 'thousand'.

[p'] is a rare variant in syllabic initial, found regularly in a few words and
sporadically in others.[5]

E.g. *pilpilòò* [⁵p'ɩ·l·p'ɩ꞉¹lo꞉] 'butterfly'. *paawàà* [⁵p'a꞉ⁱ¹wa꞉] 'butcher's trade'.
pàmpam [¹p'am⁵p'a·m] 'that's all'.

/s/ voiceless dental spirant [s].

E.g. *sallà* [⁵sa·l·¹a] 'prayer'. *sìriikᵖìì* [¹sɩ·⁵ɨi꞉꞉¹kʔi꞉] 'a flute'.

/sᵖ/ [sʔ] glottalized dental spirant.

E.g. *sᵖakà* [⁵sʔʌ꞉¹k'a] 'middle'. *sᵖoofoo* [⁵sʔo꞉꞉ho꞉] 'an old one'.

/z/ [z] voiced dental spirant.

E.g. *zanìì* [⁵zɛ꞉¹ni꞉] 'a type of woman's dress'. *ziinaarìyàà* [⁵zi꞉꞉na꞉꞉¹ɨi·ya꞉] 'gold'.

/c/ [c] voiceless dental affricate.

E.g. *caacaa* [⁵ča꞉꞉ča꞉] 'gambling'. *cinyà* [⁵čɩ·ŋ¹yɛ] 'thigh, hip'.

/cᵖ/ [čʔ] glottalized voiceless dental affricate.

E.g. *cᵖààdaa* [¹cʔa꞉⁵da꞉] 'expensiveness'.

/j/ voiced palatal affricate. This is the voiced counterpart of both /c/ and /š/
and is neither [ǯ] nor [ž], though closer to the former: [ž̌].

E.g. *jaa* [⁵ža꞉] 'a red one'. *jirgii* [⁵žɩɨ·g̑iː] 'boat'.

/š/ [š] voiceless dental spirant.

E.g. *šaafòò* [⁵ša꞉꞉¹ho꞉] 'hawk'. *sìnkaafaa* [¹šɩŋ⁵k'a꞉꞉hʷa꞉] 'rice'.

/h/ [h] spirant. This is a defective phoneme, occurring only before /a/ (in
contrast to /f/ [hʷ]). Before all other vowels [h] is /f/.

E.g. *halii* [⁵ha꞉ḷi꞉] 'mind'. *halšèè* [⁵ha·꞉ḷ¹še꞉] 'tongue'.

1.5. Nasals /m/ and /n/.

/m/ bilabial voiced nasal.

[ᵐ] or [m] before / ⚹ /. As the first transcription indicates, it is sometimes
very lightly pronounced with nasalization of the preceding vowel. It is normally
unreleased.

E.g. *mùtum* [¹mʋ·⁵t'ʋ·m], [¹mʋ·⁵t'ṽ·ᵐ] 'person'. *jàaṛum* [¹ža꞉⁵ṛʋ·m] 'jail'. In the

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[5] Compare NPH 725, PH 3, HG 178, 179, MGSH 3, WHS x, xi. On another analysis,
perhaps preferable, /p/ and /f/ would be separate phonemes. /p/ would be a defective
phoneme, occurring only before vowels. Certain morphemes would have alternants with
/p/ and /f/ as optional or limited variants.

following word it has loose contact, usually with an anaptyctic vowel (only example noted before /j/): *gamjìì* [⁵gʌ·mᵒ¹ʑi:], [⁵gʌ·m¹ʑi:] 'gutta percha tree'. Elsewhere it is [m].

E.g. *kᵊàzamtàà* [¹k'ʔɑ·⁵zɑ·m¹t'ɑ:] 'nastiness'. *tùmbii* [¹t'ʊm⁵bi:] 'stomach (as organ)'. *dumbᵊuu* [⁵dʊ·mb'ʔu:] 'a worn out tool'. *lumsaašii* [⁵ḷʊ·msɑ:ʃi:] 'alternate breaking and closing (as of the lips in smiling or the sun appearing and disappearing in clouds)'. *damšii* [⁵dɑ·mʃi:] 'dampness'. *damcᵊèè* [⁵dɑ·m¹cᵊe:] 'upper arm'. *kᵊàmnaa* [¹k'ʔɑm⁵nɑ:] 'loving'. *zumwàà* [⁵zʊ·m¹wɑ:] 'honey'. *gwamroo* [⁵gwɑ·mꞧo:] 'previously married but now wifeless man'.

/n/ dental voiced nasal.

[ŋ] before /k, kʔ, g, ʔ, h, w, y/, [ɸ, hʷ, h] (as variants of /f/).

E.g. *šìnkaafaa* [¹šɪŋ⁵k'ɑ::hʷɑ·] 'rice'. *kᵊànkᵊannèè* [¹k'ʔɑŋ⁵k'ʔɑ·n·¹e:] 'a small one'. *šingee* [⁵šɪ·ŋĝe:] 'a farm fence'. *wanᵊìn* [wɑ·ʸŋ¹ʔɪŋ] 'that'. *ᵊidònhaguu* [⁵ʔɪ·³do·ŋ⁴hɑ·gu:] 'left eye'. *kanwaa* [⁵k'ɑ·ŋwɑ:] 'potash, soda'. *cinyà* [⁵čɪ·ŋ¹yɛ] 'thigh'. *ᵊànfààmii* [¹ʔɑŋhʷɑ:⁵ni:] 'usefulness'. *sanfòò* [⁵sɑ·ŋ¹ho:] 'basket made of woven palm leaves'.

[ŋ], [n], or [ʔᵑ] before / ⸓ /.

E.g. *sàttin* [¹sʌt·'⁵ɪŋ] 'sixty'. *wannàn* [⁵wɑ·n·¹ã̃ᵑ] 'this'. *ᵊàlkùrᵊan* [¹ʔɑlk'ʊr⁵ʔɑn], more commonly [¹ʔɑlk'ʊr⁵ʔɑŋ] 'Koran'.

[ʔ̃] before /ɽ, r, l/, apparently with lengthening of the following consonant. E.g. *naamànràkᵊumii* [⁵nɑ::³mãr·ɑ·⁴kʔu:mi:] 'camel meat'. *ᵊyanrààfii* [⁵ʔyḛ·³r·ɑ:⁴hi:] 'irrigation workers' (lit. 'children of irrigated farmland'). *maagàninràyray* [⁵mɑ::³gʌ·⁴nĩ·²r·ɑy³rɑ·y] 'remedy for sand'. *ganinrààmakkà* [⁵gʌ·nĩ³r·ɑ:⁴mʌ·k·'¹ʌ] 'the seeing of your emaciated condition'. *ᵊyanlàmbuu* [⁵ʔyḛ·ḷ·³ɑm⁴bu:] 'irrigation workers' (lit. 'children of irrigating'). Should the nasalization be absent, this would be a replacement of /n/ by the consonant following.

[n] elsewhere.

E.g. *ᵊantàà* [⁵ʔɑ·n¹t'ɑ:] 'liver'. *bùnsuruu* [¹bʷʊn⁵sʊ·ꞧu:] 'billy goat'. *sᵊunsᵊuu* [⁵s'ʔu·ns'ʔu:] 'bird'. *hancìì* [⁵hɑ·n¹či:] 'nose'. *hanjii* [⁵hɑ·nʑi:] 'intestines'. *banzaa* [⁵bɑ·nzɑ:] 'foolish thing'. *niisaa* [⁵ni::sɑ:] 'far off'.

1.6. Laterals /ɽ, r, l/.

1.6.1. /ɽ, r/. Hausa has two r's: [r], which is trilled (two or more tongue tip flaps) and [ꞧ], a flap r with tongue forward, giving an "l" effect, especially before front vowels.⁶ That the two are different phonemes is shown by the pair:

kuuràayee [⁵k'u::³ꞧɑ:⁴ʸe·] 'hyaenas' (sg. *kuuraa*)
kuuràayee [⁵k'u::³rɑ:⁴ʸe·] 'cone-shaped drums' (sg. *kuuꞧùù*)

The pair used by Bargery and Abraham is:⁷

baràà [⁵bʌ:¹ꞧɑ:] 'servant'
baꞧàà [⁵bʌ:¹rɑ:] 'begging'

Other examples of the two are:

/ɽ/ *muràà* [⁵mʊ:¹rɑ:] 'head cold'. *fàꞧawtàà* [¹hʷɒ·⁵rɑ·w¹t'ɑ:] 'hunting'. *kuꞧnàà* [⁵kʷʊ·r¹nɑ:] 'a cultivated tree'.

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⁶ Compare HG 8, *l* and *r*. See also SH 58 fn. 1, NPH 725, MGSH 3, 4.
⁷ BD xxii (n. 8), see other examples given there also; PH 4, MGSH 4.

/r/ *kuràȧdaa* [⁵kʷʋ·³ꞅɑ·⁴dɑ··] 'a hatchet to cut hay'. *c²iròò* [⁵c²ɩ·¹ꞅo··] 'sprouting'. *bìrìì* [⁵bɩ·¹ꞅi·] 'monkey'. *rììgaa* [¹ꞅi·ˑ⁵gɑ··] 'type of clothing'.

1.6.2. /l/. [l̥], a more frontal *l* than in English.

E.g. *²àladèè* [¹²ɑ·⁵l̥ɛ·¹de·] 'pig'. *laakaa* [⁵l̥ɑ··k'ɑ··] 'mud'. *lèèfee* [¹l̥e·ˑ⁵he··] 'a basket for ginned cotton'. *luuyàà* [⁵l̥u··¹yɑ·] 'lawyer'.

1.6.3. Anaptyxis with laterals.

In clusters of /rC/ and /lC/ the contact between the lateral and the following consonant is loose, and there is a very short non-phonemic vowel. The quality of this vowel is determined by phonetic context. Using the symbol R for 'lateral', we have the following formulae:

Rw is [Rᵘw]   Ry is [Rⁱy]   RCi and RCe are [R·Ci] and [R·Ce]

Elsewhere V¹RC is [V¹Rᵛ¹C, [ᵛ¹] following the quality of the vowel preceding R. The tone of the anaptyctic vowel is the same as that of the preceding vowel. The quality also varies, usually according to the allophone of the determining phoneme, though anaptyctic [ⁱ] is usually [ʻ] when determined by an [i]. E.g.:

Rw, Ry *k²išurwaa* [⁵k²ɩ·šʋ·ꞅᵘwɑ··] 'thirst'. *²àlwasà* [¹²ɑlᵘ⁵wʌ·¹sʌ] 'the width of any material as woven' (BD). *k²waryaa* [⁵k²wɑ·ꞅⁱyɑ··] 'large calabash'.

RCi, RCe *zurfii* [⁵zʋ·ꞅʻhi··] 'depth'. *k²arfèè* [⁵k²ɑ·ꞅʻhe·] 'iron'. *gulbii* [⁵gʷʋ·lʻbi·] 'river'. *falkèè* [⁵hʷɑ·l̥ʻlke·] 'trader'.

VRC *kurkutu* [⁵kʷʋ·ꞅᵘkʷʋ·t'u·] 'small drum'. *kulb²àà* [⁵kʷʋ·lᵘ¹b²ɑ·] 'lizard'. *girmaa* [⁵g̊ɩ·ꞅᵉmɑ··] 'largeness, large size'. *bincìlmay* [¹bɩnč̥ɩl⁵mɑ·y] 'ostriches'. *sarmàyii* [⁵sɛ·ꞅᵉ³mɑ·⁴ʸi··] 'young man'. *taakalmàà* [⁵t'ɑ··kɑ·l̥ᵃ¹mɑ·] 'sandals'.[8]

1.7. Semivowels /w, y/

/w/ and /y/ in intervocalic position before or after homorganic vowels are [ʷ] and [ʸ] respectively. This is not a mere glide but a lighter (less audible) pronunciation. This may be seen by a comparison of *maỳ* [⁵mɑ·¹⁽ʸ⁾i·] 'grease, butter' with *maayèè* [⁵mɑ··¹ʸe··] 'wizard', although these are not a perfect pair. In *maỳ* the *y* is phonetically a slight glide plus [i·], whereas the *y* in *maayèè* is much stronger. The degree of lightness is not always uniform, but these minutiae are not distinguished in the following examples.[9]

/w/ *saawuu* [⁵sɑ··ʷu··] 'footprint'. *²àkààwuu* [¹²ɑ·k'ɑ·ˑ⁵ʷu··] 'clerk'. *s²aawoo* [⁵s²ɑ··ʷo··] 'length'. *ciiwòò* [⁵či··¹ʷo·] 'sickness'. *tuwòò* [⁵t'u·¹ʷo·] 'a thick porridge'. *²ùnguwaa* [¹²ʋŋ⁵gu·ʷɑ··] 'district'. *tagùwaa* [⁵t'ʌ·¹gu·ʷɑ··] 'a kind of shirt'. *koowaa* [⁵kʷo··ʷɑ··] 'everybody'. *màyroowà* [¹mɑy⁵ꞅo··¹ʷɑ] 'stingy person'.

/y/ *mak²ìyii* [⁵mʌ·³k²i·⁴ʸi··] 'hater'. *makìyààyii* [⁵mʌ·³ki·ʸɑ·⁴ʸi··] 'herder'. *s²uns²ààyee* [⁵s²u·n³s²ɑ··⁴ʸe··] 'birds'. *gaskeeyaa* [⁵gʌ·ske··ʸɑ··] 'truth'. *luubìyaa* [⁵l̥u··³bi·⁴ʸæ··] 'ripe fruit'. *biyuu* [⁵bi·ʸu··] 'two'.

Elsewhere /w, y/ are similar to English *w, y*: [w], [y].

E.g. *wani* [¹wɛ·ni·] 'anyone, someone'. *wàndoo* [¹wan⁵do··] 'trousers'. *yunwàà* [⁵yʋ·ŋ¹wɑ·] 'hunger'. *yaaròò* [⁵yɑ··¹ꞅo·] 'boy'.

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[8] Stress may fall on an anaptyctic vowel: *ki'rkìì* [⁵kɩ·ꞅⁱ¹ki]. The length of the vowels (preceding and anaptyctic) is affected and the statement of vowel length would undoubtedly be modified in some details by a careful study of the stress. The presence or absence of the anaptyctic vowel should also be more narrowly defined. It is absent, for example, in *halšèè* 'tongue' (but *kilšì* with anaptyctic vowel).

[9] Compare LH 4 (and fn. 1).

1.8. Sequences of like phonemes. A sequence of like phonemes is phonetically a long vowel or consonant. For vowel length see 1.9. That a sequence of like consonant phonemes is phonetically long, not double (i.e. rearticulated), is clearly seen in the case of /r/, which, if rearticulated, would be the equivalent of a single /ṛ/. Instead we have a held flap. E.g. *kʔàaʔrarree* [¹kʔɑːˑ⁵ʈɑˑʈˑeːˑ] 'a completed thing'. The glottalized series do not geminate, the first of two being replaced by its non-glottalized equivalent, e.g. /kʔ/ plus /kʔ/ yields /kkʔ/, phonetically [kˑʔ]: *fèèkʔàkkʔuu* [¹heːˑkʔakˑʔ⁵uːˑ] 'sharpened ones'. Other examples of consonant sequences are: *fiffikèè* [⁵hɪˑhˑɪˑˑ¹keː] 'wing', *ʔiccèè* [⁵ʔɪˑčˑ¹eː] 'tree'. For further examples see 1.14.4.

1.9. Vowel length. Phonetically there are five different vowel lengths, conditioned by the tone, structure of the syllable, and the juncture following. Using /a/ as a type vowel, the conditions are:

1	CV̂C	CV̄ #		[a]
2	CV̂	CV̄C	CV̂ #	[aˑ]
3	CV̄	CV̄V̄ #		[aː]
4	CV̂V̄	CV́V̄ #		[aːˑ]
5	CVV	CV́V́		[aːː]

Frequently a glottal stop (non-phonemic) may be heard after a vowel before / # /. That vowel length is phonemic may be illustrated by the pair:

tàguway [¹t‘ʌˑguˑ⁵waˑy] 'a kind of shirt' (pl.)
tààguway [¹t‘aːˑguˑ⁵waˑy] 'female camels'.

Since the vowels /e/ and /o/ occur only in geminate clusters /ee/, /oo/ (1.14.1), they may have only lengths 3 to 5. Examples of vowel length are:

1 [a] in CV̂C: *gìndii* [¹ĝɪn⁵diːˑ] 'hips'; *kùnkuruu* [¹kʷʋŋ⁵kʋːʈuː] 'tortoise'; in CV̄ # : *yaadʔàwkì yaasʔàà* [⁵yɑːˑ³dʔawk̮ɪ ⁴yɑːːˑ¹sʔɑː] 'he took (his) finger'.

2 [aˑ] in CV̂: *ʔìbìliišìì* [¹ʔɪˑbɪˑ⁵liːˑši] 'demon', *ʔùbaa* [¹ʔʋˑ⁵baːˑ] 'father', *kàree* [¹k‘ʌ ⁵ʈeːˑ] 'dog'; in CV̂C: *bindigàà* [⁵bɪndɪˑ¹gaːˑ] 'gun', *masukkàà* [⁵mʌːsʋˑk‘ˑ¹aː] 'a type of large calabash' (pl.), *ʔantàà* [⁵ʔaˑnˑtʔaː] 'liver'; in CV̂ # : *nagàri* [⁵nʌˑ³gʌˑ⁴ʈiˑ] 'a person of good character'.

3 [aː] in CV̄: *gizòò* [⁵ĝɪˑ¹zoː] 'spider (folklore trickster)', *kudʔii* [⁵kʷʋˑdʔiːˑ] 'money', *sagoo* [⁵sʌˑgoː] 'whirlwind'; in CV̄V̄ # : *ʔaykìì* [⁵ʔaˑy¹kiː] 'work', *yaabuudʔèè* [⁵yɑːːbuːˑ¹dʔe] 'it's open', *ʔàlaarùù* [¹ʔɑˑ⁵lɑːˑ¹ṛuː] 'porter', *ʔidòò* [⁵ʔɪˑ¹doː] 'eye', *kʔàzamtàà* [¹kʔɑˑ⁵zɑˑmˑtʔɑː] 'nastiness'.

4 [aːˑ] in CV̂V̄: *cìicii* [¹čiːˑčiːˑ] 'anything that bites when you're not looking', *bèèlii* [¹beˑˑ⁵liːˑ] 'flute', *tùùsʔuu* [¹t‘uˑˑ⁵sʔuːˑ] 'a festival drum', *tòòkaa* [¹t‘oˑˑk‘aˑ] 'ashes', *màagee* [¹mɑˑˑ⁵ĝeːˑ] 'cat'; in CV́V̄ # : *fušii* [⁵hʷʋˑšiː] 'anger', *beebee* [⁵beːbeː] 'deafmute', *rùùgùtuu* [¹ṛuˑguˑ⁵t‘uːˑ] 'writing', *cèètoo* [¹čeˑˑ⁵t‘oːˑ] 'salvation', *ṛaanaa* [⁵ṛɑːˑnɑːˑ] 'sun'.

5 [aːː] in CV̄V̄: *kiifii* [⁵k̮iːːhiːˑ] 'fish', *neemaa* [⁵neːːmɑːˑ] 'seek', *dambuubùù* [⁵dɑˑmbuːˑˑ¹buː] 'calf of leg', *zoomoo* [⁵zoːːmoːˑ] 'rabbit', *laakaa* [⁵lɑːːk‘ɑːˑ] 'mud'; in CV́V̄: *jìì* [⁵ži¹liːː] 'perceiving', *yaaceè* [⁵yɑːːčeˑ¹eːː] 'he said', *soo* [⁵so¹oːː] 'wanting', *saòtàà* [⁵sɑˑ¹aːːt‘ɑː] 'stealing'.

It should be said that the length of a final vowel is difficult to determine, especially if it has low tone. Note that according to the above formulation, a

final long vowel with low tone has the same length as a short high in an open syllable.[10]

1.10. Vowel quality. Length is not marked in the brackets following a given phoneme and giving the quality.

1.10.1. /i/ [i] before /y/, optionally before / ǂ /, and in /ii/.

[ɪ] elsewhere

E.g. *wìyaa* [¹wi·⁵ʸɑ:·] 'difficulty', *wiyàà* [⁵wi:¹ʸɑ:] 'neck', *mùyi hàwkaa* [¹mʋ·⁵ʸi· ³hɑw⁴k‘ɑ:·] 'let's act crazily', *wuri* [⁵wʋ:ɪɪ·], [⁵wʋ:ɪi·] 'earliness', *ʔiskàà* [⁵ʔɪ·s¹k‘ɑ:] 'wind', *kicʔèè* [⁵k̟ɪ:¹c·ʔe:] 'fat', *niisaa* [⁵ni::sɑ:·] 'far off', *fiilii* [⁵hi::li:·] 'open space (for public use)'.

1.10.2. /ee/. [eʌ] before / ǂ /, [e] elsewhere. E.g. *kay sanfòònee* [⁵k‘ɑ·y sa·ŋ³ho:·⁴neʌ:·] 'you're a palm-leaf basket' (i.e. soft and unstable), *ganyee* [⁵gɑʸ·ŋyeʌ·] 'leaf', *bèèlii* [¹be·:⁵li:·] 'flute', *bàreewàà* [¹bʌ·⁵ɾe::¹wɑ:] 'gazelle'.

1.10.3. Umlaut. /u, oo, a/ are [ʉ, oʸ, aʸ] respectively before /ny/, or before /nk, ng, nʔ, nš/ followed by /i, ee/. Before /nši/, /a/ is sometimes only [æ], the palatalization not being quite so strong.

E.g. /u/ *tudunyàà* [⁵t‘ʋ:dʉ·ŋ¹yɑ:] 'hill', *tunkìyaa* [⁵t‘ʉ·ŋ³ki·⁴ʸɑ:·] 'ewe', *dʔunkìì* [⁵dʔʉ·ŋ¹ki:] 'sewing', *munʔiibàà* [⁵mʉ·ŋʔi::¹bɑ:] 'we fetched some', *munʔèèbeešì* [⁵mʉ·ŋ³ʔe:·⁴be::¹ši] 'we fetched a little of it', *hannunšì* [⁵hɑ·n·ʉ·n¹ši] 'his hand'. /oo/ *šinà soonyàsàami duuniyàà* [⁵šɪ:³nʌ⁴soʸ·:²ŋyʌ·sɑ:·mɪ ³du::ni:¹ʸʌ:] 'he wanted to receive the world', *ʔinà soonkì* [⁵ʔɪ:³nʌ⁴soʸ·:¹ŋk̟i] 'I love you (f.)', *tanà soongizòò* [⁵t‘ʌ:³nʌ ⁴soʸ·:²ŋ³g̟ɪ:¹zo:] 'she wants the spider', *sunà soonʔìntàfi* [⁵sʋ:³nʌ ⁴soʸ·:²ŋʔɪnt‘ʌ·³hi·] 'they want me to go', *šinà soonšì* [⁵šɪ:³nʌ ⁴soʸ·:¹nši] 'he likes him'. /a/ *hanyàà* [⁵hɑʸ·ŋ¹yæ:] 'road', *gwankii* [⁵gwɑʸ·ŋk̟i:·] 'Roan antelope' (BD), *kàwankèèšì* [¹k‘ʌ·⁵wɑʸ·ŋ¹k̟e:·ši] 'wash it!', *bàkangizòò* [¹bʌ·⁵k‘ɑʸ·ŋg̟ɪ:¹zo:] 'rainbow', *wanʔìn* [⁵wɑʸ·ŋ¹ʔɪn] 'that one', *naaganšì* [⁵nɑ::gɑʸ·n¹ši] 'I saw him', *baayanšì* [⁵bɑ::yæ·n¹ši] 'his back'.

1.10.4. Otherwise /u, oo, a/ are as follows:

/u/ [u] before /u/ or /w/, [ʉ] in /run/, [ʋ] elsewhere ([ʋ] as *oo* in English *soot*). E.g. *suunaa* [⁵su::nɑ:·] 'name', *ruwaa* [⁵ɾu:ʷɑ:·] 'water', *bàrunjèè* [¹bʌ·⁵ɾʉ·n¹že:] 'butcher', *kudʔii* [⁵kʷʋ:dʔi::] 'money', *mussàà* [⁵mʋ·s·¹ɑ:] 'cat'.

/oo/ [o] This is a pure vowel, not a diphthong. E.g. *zoomoo* [⁵zo::mo:·] 'rabbit', *tabòò* [⁵t‘ʌ:¹bo:] 'scar', *tooyèè* [⁵t‘o:·¹ʸe:] 'to burn'.

/a/ Beside the above mentioned [ɑʸ], /a/ has the variants: [æ], [ɛ], [ɒ], [ɑ], [ʌ>], [ʌ]. The distribution of these is very complex, and no clear pattern has yet emerged. There appears to be some free variation among them. E.g. *luubìyaa* [⁵lu::³bi·⁴ʸæ:·:/ɑ:·] 'ripe fruit', *maatinjà* [⁵mɑ::t‘ɪ·n¹žʌ/æ] 'messenger', *yaayi* [⁵yɑ:·ʸi·, yɛ:·ʸi·] 'he made'. Examples of the different variants are:

[10] The system of vowel length was worked out with contrasting pairs, and the results as set forth here were applied to other examples. The length of a vowel as given in brackets is not an impressionistic one, but an interpretation from the phonemic or semi-phonemic recording. Final vowel lengths are also re-interpretations in some instances. Examples were re-checked with an informant when possible. The phonetic difference between identical phonemic lengths has been occasionally noted by others. For example, see BD under *da*: of *da* II (*daà*) he says 'a very long vowel' but of *da* III (*dàà*) 'vowel not so long as in *da* II'.

[æ] *yafkⁱii* [⁵yæ·ḅkⁱi··] 'sliminess', *baayanžì* [⁵bɑ··yæ·n¹ši] 'his back', *gyaftòò*
[⁵ĝyæ·ḅⁱt'o·] 'skirt', *fiyaakⁱii* [⁵hi·ʸ·æ<:kⁱi··] 'smoke', *šàntuu* [¹šæn⁵t'u··] 'a long
calabash'.

[ɛ] *yaddàà* [⁵yɛ·d¹·ɑ·] 'to throw away', *yazgaa* [⁵yɛ·zgɑ··] 'hair of horse's tail',
buuyà [⁵bu··yɛ] 'pig iron', *gàjàrtaa* [¹gʌ·żɛr⁵t'ɑ··] 'shortness', *tàrcⁱii* [¹t'ɛr⁵cⁱi··]
'flickering', *yaaragèè* [⁵yɑ··rɛ·¹ĝe·] 'he left some', *dafžì* [⁵dɛ·¹hi·] 'poison', *daree*
[⁵dɛ·re··] 'night'.

[ɒ] *fanfaryaa* [⁵hʷɒ·ŋhʷɑ·r'yɑ··] 'slipping off of handle', *kwalbaa* [⁵kwɒ·l̥ᵃbɑ··]
'bottle', *saabwangàrii* [⁵sɑ··bwɒ·ŋ³gʌ·⁴ri··] 'a new town' (a foreign settlement).

[ɑ] *halžèè* [⁵hɑ·l̥¹še·] 'tongue', *ʔaroo* [⁵ʔɑ·ro··] 'loan', *karbⁱèè* [⁵k'ɑ·r¹bⁱe·] 'to
answer', *kⁱarfii* [⁵k'ɑ·r'hi··] 'strength', *banzaa* [⁵bɑ·nzɑ··] 'foolishness', *samroo*
[⁵sɑ·mro··] 'mosquito', *kay* [⁵k'ɑ·y] 'you' (m.sg.), *sawcⁱii* [⁵sɑ·wčⁱi··] 'glossiness'.

[ʌ>] *sanì* [⁵sʌ>·¹ni] 'to know', *zanžì* [⁵zʌ>·¹ni·] 'a type of woman's dress',
sàrii [¹sʌ>·⁵ri··] 'leather worm'.

[ʌ] *masassabii* [⁵mʌ·sʌ·s·ʌ·bi··] 'a harvesting implement' (BD sub *magirbi*),
fažžì [⁵hʷʌ·¹ši·] 'breaking', *kⁱàlaa* [¹k'ʌ·⁵]ɑ··] 'the young of almost any fish' (BD),
šagàlii [⁵šʌ·³gʌ·⁴]i··] 'business' (BD), *watàà* [⁵wʌ·¹t'ɑ·] 'moon, month'.

A descriptive statement would have to take into account exact phonetic
length, tone, stress, and phonetic environment as to both consonants and nearby
vowels. A few generalizations may be made but only as guides, not as rules.
[æ] and [ɛ] tend to appear after palatals (/y, j, c, š/) and before syllables with
/i, e/. [ɒ] appears near (usually after) /w, f/. /aa/ is usually [ɑ]. /a/ is [ɑ]
near back consonants and before /m, n, w, y/ in the same syllable. With a
complete statement, /a/ would be [ʌ] elsewhere.

1.11. Tone.[11] Hausa has two phonemic tones: high /'/ and low /`/. Phoneti-
cally relative tone is determined by tone phrase contour, ranging from basic high
[5] to basic low [1], the difference between these basic points being a musical
fifth. This means there are five phonetic levels of tone. Each word has its own
tone pattern phonemically. In placing words together in a tone phrase, the
phonetic value of the phonemic tones is determined by the phrase contour.
There are at least two tone phrase contours, the narrative and the interrogative.
The narrative is the basic contour, the interrogative being a modification of it.
These contours may be stated in numbers from 1 to 5 for the five levels of tone.
Several general statements may be made:

a. Every tone phrase initial or final /'/ is [1].
b. The first /'/ in a tone phrase is [5].
c. Every tone phrase must have at least one /'/.
d. A series of two or more tones of the same phonemic level remain on the
   phonetic level of the first.
e. A tone phrase may consist of any number of successive tone units (single
   tones) within a contour pattern from a single high to a complete pattern.

1.11.1. The narrative contour. The narrative contour is [1 5 3 4 2 3 1 2],
i.e. starting with the first /'/ [5] every drop is two steps and every rise one,
except that any final /'/ is [1] (statement a). Many examples have been given

[11] Compare BD xxvii–xxviii, PH 4–8, 129–132, MGHS 137–142, ISH 3, HT.

in sections 1.1 to 1.9. The following examples are given in phonemic transcrip-
tion only, with the phonetic tone indicated by numbers under the phonemic
tone:

 kàkwancèèmu gà sark²àà 'release us from the chains!'
 1 5 3 4 2 3 1

 munà fad²àà dà mazààjee 'we were fighting with men'
 5 3 4 2 2 3 1 2

 màykàràmbààniinèè 'he's a bothersome person'
 1 1 1 1 5 1

 taagaa sarkii 'she saw the king'
 5 5 5 5

 šinà jaṅdookìì 'he's pulling the horse'
 5 3 42 3 1

An utterance may include any number of tone phrases. For example:

 s²oofoonrììgaa // taafi baà koomii 'an old shirt is better than none' (lit.
 5 5 3 4 5 5 53 4 4
'exceeds "without anything" ').

 dookìì wannàn // dàban yakèè dà naakà 'this horse is different than yours'.
 5 3 4 1 1 5 5 3 3 4 1

 duuniyàà //taayi màykyaẁ,// duuniyàà // taayi muugùù,// baabù muugùù,//
 5 5 1 5 5 3 41 5 5 1 5 5 5 1 5 3 4 1

baabù màykyaẁ,// baabù duuniyàà. 'the world has made good people (lit. a
 5 3 3 41 5 3 4 41

good one) and bad people (lit. a bad one); were there no bad, were there no good,
(there'd be) no world'.

 1.11.2. Interrogative contour.[12] The equivalents of English questions fre-
quently have simple narrative contours:

 mììneenèè // kaajimàà dà yawà 'why did you take so long?'.
 1 5 1 5 5 3 3 4 1

 wààneenèè // yaa²aykookà 'who sent you here?'.
 1 5 1 5 5 5 1

On the other hand, many questions have a contour which differs from the
narrative and may be called the "interrogative contour'. Although definite
rules have not been established, the characteristic feature is a replacement of
phonemic lows by highs towards the end of the utterance. Examples are:

 dòòmimmììneenèè // kaamancèè? 'why did you forget?'. Only the second
 1 5 3 4 1 5 5 51

contour is interrogative. The narrative is *kaamancèè*.

 dammììneenee? 'why?' for *dammììneenèè* (also recorded in the same text).
 5 3 4 4 5 3 4 1

The interrogative is here followed (in the text) by the rest of the question with
narrative contour. Contrast the last example ('why did you forget?') where
the first part of the question had narrative contour and the second interrogative.

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[12] Compare MGSH 100–105, ISH 66–68.

kanòò // madʔùnkii da yawa? 'are there many tailors in Kano?'. Narra-
 5 1   5 3 4 5 5 5
tive: *dà yawà.*
  2 3 1
hakàànee? 'is that so?'. Narrative: *hakàànee.*
 5 3 51   5 3 4

1.12. Junctures. There are three phonemic junctures.

1.12.1. Close juncture. This juncture is marked by the contiguity of suc-
cessive phonemes in an utterance and indicates lack of pause or of facultative
pause. For example, in *gaafaràà* 'pardon', this juncture occurs between each
linear phoneme and the following one beginning with /g/ and /a/ and ending
with /à/ and /à/. The final /à/ is followed by open juncture.

1.12.2. Open juncture occurs before the first morpheme in an utterance and
after any morpheme or combination of morphemes not bound by close juncture
to the morpheme following (therefore before any not bound by close juncture
to the morpheme preceding). It is phonetically pause, facultative pause or only
a conditioning of preceding vowel length. It is indicated by space in a text or
by / ⚹ / in discussions. Phonetically it conditions the length of any vowel
preceding it. It also has a morphophonemic function, for which see 2.2).

1.12.3. Tone phrase juncture occurs simultaneously with either close or open
juncture, though usually with the latter. It indicates the end of a tone phrase
contour and the beginning of a new one (if followed by another morpheme or
sequence of morphemes). No special mark (except punctuation) is used in
utterance initial or final position, it being understood that a tone phrase begins
when an utterance begins and that one ends when an utterance ends. Medially
in an utterance it is indicated by //. Examples are:

gàrimmù // lookàcintuuraawaa bàsùzoo ba // munà yaakʔinduuniyàà // munà
 1 5   1   5 3 4 4 4   4   2 2 3 3   5 3 4 4 4 4 1   5 3
kašèè mutàànee. 'In our country at the time the Europeans hadn't come, we
 4 2   3 1   2
were a fighting world; we killed people.'

yaagayàà manì // nii // bàà namijìì banèè. 'He said to me, "I'm not a
 5 5 3   4 1   5   1   5 5 3 4 1
he-man." '

nii bànkulàà ba // ʔàbin//dà suncèè. 'I don't care what they say.' Here
 5 3   4 1 1   1 5   1 5 51
the sequence *ʔàbindà* has only close juncture, but the change of contour shows
that there is also a tone phrase juncture. Since contour final low and contour
initial low are both 1, there is no phonetic criterion for determining whether the
juncture is before, after, or in *dà*. The division here is made for syntactic
reasons (*dà suncèè* = noun, so is treated as a unit). Although the present notes
are not decisive, it would seem probable that at least some tone phrase junctures
are facultative.[13]

1.13. Stress. Hausa has stress as well as tone, but this remains unstudied in

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[13] Compare Bloch, Language 22.201–202 in regard to pauses in Japanese.

this description.[14]   It is hoped that a study of it can be made and a definitive statement issued.   This would help to clear up some other problems.   For example, the positional variants of the phoneme /a/ are in some cases related to stress.   Compare *daɾàà* [⁵′dɛːˈɾʌː] 'a game played by moving pieces on a board' and *madaɾaa* [⁵′mʌːdʌːɾʌːˑ] 'fresh milk', where the /a/ in /daɾ/ is [ɛ] when stressed and [ʌ] when unstressed.   From the little known thus far, stress appears to be non-phonemic.   It is left unrepresented in the phonetic transcriptions as the material used has practically no stress marked, the emphasis having been upon tone.

1.14. Phonemic distribution.

1.14.1. Vowels.   A vowel may follow a consonant or an identical vowel.   It may precede a consonant, an identical vowel, or / ✳ /.   The vowels /e/ and /o/ are further limited in that they occur only in clusters /ee/ and /oo/.

/i/ *ʔidòò* 'eye', *duucʔìì* 'rock'.   /ii/ *ʔiikòò* 'authority, power'.   /ee/ *kàbeewàà* 'squash', *ganyee* 'leaf'.   /u/ *bundìì* 'tail', *bùnsuruu* 'goat'.   /uu/ *duuniyàà* 'world', *duu* 'scorpion'.   /oo/ *kòòmoo* 'like'.   /a/ *daasàšii* 'gums', *giiwàà* 'elephant'.   /aa/ *dààmisàà* 'leopard'.

1.14.2. Consonants, single.   Any consonant may occur initially after pause or medially between vowels.   Examples:

	Initially		Medially
/ʔ/	*ʔiskàà* 'wind'		*baʔà* 'joke'
/b/	*ʔàbookii* 'friend'		*ʔabààwaa* 'yarn'
/b/	*bʔàraawòò* 'thief'		*gabʔà* 'joint'
/c/	*cukwii* 'cheese'		*ʔacàkookoo* 'a kind of rattle'
/c/	*cʔanyà* 'cricket' (BD)		*duucʔìì* 'rock'
/d/	*dabòò* 'magic'		*ʔadoo* 'smallpox'
/d/	*dʔaakì* 'room'		*fadʔàà* 'fight'
/f/	*farii* 'a white one'		*ʔafaɾaɾì* 'cream'
/g/	*gàbaa* 'chest'		*gòògee* 'fiddle'
/h/	*habʔà* 'chin'		*yaahadʔàà* 'he swallowed'
/j/	*jìki* 'body'		*bàjini* 'bull'
/k/	*kumci* 'cheek'		*kèèkee* 'wagon, cart'
/kʔ/	*kʔoofà* 'doorway'		*bakʔii* 'black one'
/l/	*laakaa* 'mud'		*ʔàgùluu* 'vulture'
/m/	*mijì* 'husband'		*ʔàlààmu* 'expectation'
/n/	*niisaa* 'far'		*ʔàmaanà* 'peace'
/p/	*pàmpam* 'that's all'		*pìlààpìlay* 'butterflies'
/r/	*reešèè* 'branch'		*farii* 'white one'
/ɾ/	*ɾamà* 'hemp'		*ʔafaɾaɾì* 'cream'
/s/	*sagoo* 'whirlwind'		*ʔàlbasà* 'onion'
/sʔ/	*sʔuusʔà* 'worm'		*duwààsʔuu* 'rocks'
/š/	*šaafoo* 'hawk'		*saašèè* 'half, part'
/t/	*tàwsay* 'compassion'		*ʔàbùtaa* 'friendship'
/w/	*wàndoo* 'trousers'		*gaawaa* 'dead body'

[14] Compare MGSH 141–142, PH 5, 6, 8–13.

/y/   *yaajì* 'pepper'   *ˀaya* tiger-nut grass'
/z/   *zoobèè* 'ring'   *ˀazùrfa* 'silver'
  The following consonants were noted in final position:
/p/   *ˀalìp* '1000'   /f/   *šààrif* 'descendant of
                                                          the prophet'
/s/   *takwàs* 'eight'   /m/   *pàmpam* 'that's all'
/š/   *tàrbuš* 'fez'   /n/   *gusùn* 'south'
/t/   *minìt* 'minute'   /w/   *màntaw* 'forgetful
                                                          person'
/ṛ/   *sèèbuṛ* 'table, shovel'   /y/   *màlààˀìkay* 'angels'
/l/   *kˀùful* 'a field rat'

  1.14.3. Consonants, initial clusters. The following initial clusters were noted:
/kw/   *kwaanaa* 'day'   /ky/   *kyarma* 'trembling'
/kˀw/ *kˀwalwaa* 'brain'   /kˀy/ *kˀyàlkˀyàli* 'glittering'
/gw/   *gwaazaa* 'koko yam' (BD)   /gy/   *gyàmroo* 'volunteer
                                                          corn'
/dw/   *dwaalakˀii* 'hugeness'
/dˀw/ *dˀwaacii* 'bitterness'   /ˀy/   *ˀyaaˀyaa* 'children'
/sw/   *swàànee* 'stealing off
                 someone'
/sˀw/ *sˀwaasˀòò* 'cockroach'
/zw/   *zwààri* 'greed'
Note that all have /w/ or /y/ as second member of the cluster.[15]

  1.14.4. Consonants, medial clusters. The accompanying chart gives the
medial two consonant clusters noted. Geminates of all but glottalized con-
sonants are found (see 1.8). /y/ occurs unrestrictedly as first member and /n/
subject only to rules of replacement (see 2.2.3). The chart is arranged to show
the limitations of voiced-voiceless or voiceless-voiced combinations. Phonemes
/p/ to /j/ do not occur in two consonant clusters with each other unless both
members of the cluster are either voiced or voiceless. The glottal stop may
also belong to this group. The other consonants, /r/ to /y/, do not have this
limitation. It is generally a limitation of consonants which have voiced or
voiceless counterparts, but the pattern is by no means perfect:

                     p, f, h   t   k   s   š, c
                     b   d   g   z   j

The glottalized series /bˀ, dˀ, kˀ, sˀ, cˀ/ do not have counterparts but are
restricted in clusters in the same way as the unglottalized. They are further
restricted in that they occur initially in clusters only before /w/ and /y/. /bˀ/
and /cˀ/ were not found initially in clusters. *p* is usually a free variant of /f/
when initial in clusters (and elsewhere, see fn. 5). Examples of both are given

[15] The following additional initial clusters with /w/ or /y/ are given in Bargery (BD)
as from Katsina: /bw/ *bwiya* (given as *buuya* by my informant), /bˀw/ *bˀwalanbˀwantani*,
/cw/ *cwai*, /fy/ *fyace*, /lw/ *lwacˀi* /nw/ *nwai*, /rw/ *rwagga*, /ṛw/ *ṛwabbe*. Others, not
labelled as from Katsina, are: /by/ *byallam*, /bˀy/ *bˀyasa*, /fw/ *fwatta*, /hw/ *hwi*, /hy/
hyade, /jw/ *jwai*, /mw/ *mwimwi*, /ny/ *nyar*.

and the equivalence with /f/ indicated where there is evidence of free variation.[16] Clusters such as /ft, fc, fs/ may be [bt, bc, bs], but phonemically /bt, bc, bs/ do not occur. Examples of the clusters on the chart are:

/pC/: /pt/ *gyaptòò* (= *gyaftòò*), pl. *gyaptàptay* 'shirt'. /pk/ *šipkà* (= *šifkà*) 'planting'. /pk?/ *yapk²ii* (= *yafk²ii*) 'sliminess'. /ps/ *kàtapsà* 'rope ladder'. /pš/ *tàpšee* (= *tàfšee*) 'a stew'. /pc/ *cipci* 'thatching grass' (BD).

/tt/: *battà* 'little (leather) box'.

/kC/: /kk/ *tukkuu* 'crest'. /kw/ *yaakwantàà* 'he lay'. /ky/ *kàkyankyànee*. /k?C/: /k?w/ *dak²walwaa* 'laying hen'. /k?y/ *taak²yaalèènì* 'she ignored me'.

/sC/: /st/ *kwastàmastà* (nickname for rooster): *kwatàà mastà* 'quartermaster'. /sk/ *²iskà* 'wind'. /sk?/ *mask²ii* 'greasiness' /ss/ *mussà* 'cat'. /ss?/ *dàms²àss-²uu* 'upper arms'. /sw/ *yaaswaab²èè* 'he skinned himself'.

/šš/: *šiššikee* 'beam'.

/cC/: /cc/ *²iccèè* 'tree'. /cc?/ *c²acc²afa* 'drizzle'.

/fC/: See also /pC/. /ft/ *dàftii* (= *dàptii*) 'stale food'. /fk/ *²afkì* 'swelling of grain in cooling' (BD). /fk?/ *yafk²ii* (= *yapk²ii*) 'sliminess'. /fs/ *hafsà* 'officer'. /fc/ *zàfcee* (= *zàpcee*) 'to bite (without warning, and then run)'. /ff/ *tàffa* 'ginned cotton'. /fš/ *naagwafšèèši* 'I hit him (hard)'.

/hh/: *b²ootàhhawyàà* 'the handle of the hoe'.

/bC/: /bb/ *bàbba* 'a big one'. /bb?/ *rùb²abb²ee* 'rotten thing'. /bd/ *²abdùgàà* 'cotton'. /bd?/ *yabd²oo* 'a plant whose seeds are used for soup'. /bg/ *s²abgà* 'switch'. /bz/ *bà²abzùnii* 'an easterner'. /br/ *k²waabri* 'shinbone'. /bl/ *makublii* 'key'.

/dC/: /dd/ *bùddarii* 'skunk'. /dd?/ *cèèd²àdd²uu.* 'fig trees'.

/d?w/: *mad²waad²ìyaa* 'whip snapped to scare birds'.

/gC/: /gg/ *gààgàggi* 'torches'. /gw/ *²agwajaa* 'a small boat'.

/zC/: /zb/ *hazbiyaa* 'a wild, speckled pigeon' (BD). /zg/ *gìzgirii* 'heart (of plant)'. /zz/ *kòòzazzaa* 'faded (f.)'. /zw/ *naazwààree gùda* 'I took one'.

/jj/: *kòòzajjee* 'faded one (m.)', *jajjààyee* 'red ones'.

/rC/: /rk/ *sarkii* 'king'. /rk/ *sark²àà* 'chain'. /rc?/ *sarc²èè* 'splinter'. /rf/ *k²arfèè* 'metal'. /rb?/ *kirb²ìì* 'working of a dough-like mass'. /rg/ *bìr-gaamì* 'goatskin bag'. /rj/ *k²ìrjii* 'chest'. /rr/ *kwàrarròò* 'bag of dum-palm leaves' (BD). /rm/ *b²urmaa* 'a clay trap'. /rw/ *bùdurwaa* 'girl'. /ry/ *gùryaa* 'cotton seed'.

/ṛC/ /ṛt/ *buṛtu* 'ground hornbill' (BD). /ṛk/ *²ààtùṛkùmaamii* 'a type of camel'. /ṛs/ *hàṛsa* 'insides of calabash'. /ṛš/ *kàbaṛši* 'leave him!'. /ṛc/ *baṛci* 'sleep'. /ṛc?/ *gaṛc²àà* 'jaggedness'. /ṛf/ *²aṛfoofii* 'cheapness(es)'. /ṛh/ *²àṛhaa* 'cheapness'. /ṛb/ *²àrbà²in* 'forty'. /ṛb?/ *gùṛb²iyaa* 'peanut soup'. /ṛd/ *sàṛdiidìì* 'well-built man'. /ṛd?/ *naamurd²èèšì* 'I twisted it'. /ṛg/ *b²aṛgoo* 'marrow'. /ṛz/ *²aṛzìki* 'good fortune'. /ṛj/ *naaguṛjèè jìkiinaa* 'I bruised myself'. /ṛṛ/ *tòòṛàṛṛii* 'bulls'. /ṛm/ *gaṛmagaṛma* 'crazy'. /ṛn/ *²aṛnaa* 'pagans'. /ṛ?/ *faṛ²àà* 'jollity'.

[16] Even should /p/ and /f/ be separate phonemes, probably only one (/f/) occurs phonemically in -CC- or as -C. Examples of both are given here due to the unsettled nature of the question.

CHART OF MEDIAL -CC- CLUSTERS

	p	t	k	k?	s	s?	š	c	c?	f	h	b	b?	d	d?	g	z	j	r	ṛ	r̥	l	m	n	w	y	?
p		pt	pk	pk?	ps	ps?	pš	pc																			
t		tt																									
k			kk																								
k?																									k?w	k?y	
s		st	sk	sk?	ss	ss?																			sw		
s?																											
š							šš																				
c								cc	cc?																		
c?																											
f		ft	fk	fk?	fs		fš	fc		ff																	
h											hh																
b												bb	bb?	bd	bd?	bg	bz		br			bl					
b?																											
d														dd	dd?												
d?																									d?w		
g																gg									gw		
z												zb				zg	zz								zw		
j																		jj									
r		rt	rk	rk?	rs			rc	rc?	rf	rh	rb	rb?	rd	rd?	rg	rz		rr				rm		rw	ry	
ṛ			r̥k				r̥š			r̥f	r̥h	r̥b	r̥b?			r̥g		r̥j	r̥r				r̥m	r̥n			r̥?
r̥																											
l		lt	lk		ls		lš			lf	lh	lb	lb?			lg						ll	lm		lw		
m		mt			ms	ms?	mš	mc	mc?	mf		mb	mb?	md			mz	mj	mr				mm	mn	mw		
n		nt	nk	nk?	ns	ns?	nš	nc	nc?	nf	nh			nd	nd?	ng	nz	nj	nr			nl		nn	nw	ny	n?
w		wt	wk	wk?	ws	ws?	wš	wc	wc?					wd	wd?	wg		wj	wr					wn	ww	wy	
y		yt	yk	yk?	ys	ys?	yš	yc	yc?	yf	yh	yb	yb?	yd	yd?	yg	yz	yj	yr			yl	ym	yn	yw	yy	y?
?																										?y	

/lC/: *salpoo* (= *salfoo*) 'wheedle (?)'. /lt/ *sùltan* 'sultan'. /lk/ *sàlka* 'leather waterbag'. /lk²/ *k²àlk²aši* 'underneath'. /ls/*halsoošii* 'tongues'. /lš/ *halšèè* 'tongue'. /lf/ *²àlfadari* 'mule'. /lh/ *²àlhàṛiinì* 'silk'. /lb/ *²àlbaṛkà* 'blessing'. /lb/ *b²àlb²àši* 'speck'. /lg/ *²àlgaytà* 'a wing instrument'. /lj/ *²àljannà* 'Jinn'. /ll/ *²allà* 'God'. /lm/ *²almakaši* 'scissors'. /lw/ *²àlwasà* 'width of woven material', *walwaajìì* 'a deer-like animal' (BD under *inyawara*).

/mC/: /mp/ *pàmpam* 'that's all'. /mt/ *²àzààlùmtakà* 'oppression (?)'. /mk²/*sàmk²ee* 'loincloth'. /ms/ *lumsaaši* 'opening and closing, alternant shining and clouding over of sun, etc.'. /ms²/ *dams²ooc²ii* (pl. of *damc²èè*) /ms/ *lùmšii* 'big cloud'. /mc/ *gùmcì bààkinkà* 'fill your mouth!'. /mc²/ *damc²èè* 'upper arm'. /mf/ *rùmfa* 'shed'. /mb/ *dambuubù* 'calf of leg'. /mb²/ *dumb²uu* 'worn out implement'. /md/ *yaagamdààka* 'it fits you'. /mz/ *gumzuu* 'wild pig'. /mj/ *gamjìì* 'gutta-percha tree' (BD). /mr/ *damroo* 'a variety of bulrush millet' (BD sub *dauro*). /mm/ *bammì* 'palm wine'. /mn/ *k²àmnaa* 'love'. /mw/ *s²umwà* 'rag'.

/nC/: /nt/ *²àmìntaa* 'trust', *bàntee* 'loincloth'. /nk/ *cànkoo* 'bird trap'. /nk²/ *dank²òò* 'gum'. /ns/ *bùnsuruu* 'goat'. /ns²/ *s²uns²uu* 'bird'. /nš/ *sunšifkàà* 'they sowed'. /nc/ *yaakwancèèši* 'he released him'. /nc²/ *yaaran²èè* 'he swore'. /nf/ *²ànfààni* 'usefulness'. /nh/ *sunhàyfeetà* 'they bore her'. /nd/ *bindigà* 'gun'. /nd²/ *tàkànd²aa* 'sugar cane'. /ng/ *²angòò* 'bridegroom'. /nz/ *banzaa* 'foolishness'. /nj/ *yaarìnjààyeeši* 'he overpowered him'. (/nr/ *sunrifèèšì* 'they opened it'. /nṛ/ *sunṛuud²èè* 'they're confused'. /nl/ *sunlullùb-²eeta* 'they veiled her'.) /nn/ *sunnèèmeešì* 'they charmed him'. /nw/ *d²an-waakèè* 'dumplings' (see BD). /ny/ *yaarinyà* 'girl'. /n²/ *wan²ìn* 'that'.

/wC/: /wt/ *²àwtaa* 'the youngest'. /wk/ *hàwkaa* 'wrath'. /wk²/ *sawk²ii* /ws/ *tàwsay* 'compassion'. /ws/ *s²àws²ay* 'accident'. /ws/ *bawšìì* 'a tree'. /wc/ *kàcawcawa* 'bells tied to ankle or knee when dancing'. /wc²/ *sàwc²ii* 'glossiness'. /wd/ *dàwdawaa* 'a flavoring for soup'. /wd²/ *gawd²èè* 'a thorny shrub' (BD). /wg/ *gawgawa* 'something heavier than one can manage'. /wj/ *bawjee* 'an edible root'. /wr/ *b²awree* 'rough-leaved fig tree' (BD). /wṛ/ *²awṛàà* 'a light colored donkey' (BD). /wn/ *b²awnaa* 'water buffalo'. /ww/ *wàwwoo* 'name of child born on New Year's', *nawwii* 'weight, heaviness'. /wy/ *hawyaa* 'hoe'.

/yC/: /yt/ *²àlgaytà* 'a wind instrument'. /yk/ *²aykìì* 'work'. /yk²/ *mayk²òò* 'grease'. /yš/ *màysaà* 'one who places'. /ys²/ *màys²aawoo* 'a long one'. /ys/ *naakayšì* 'I took him'. /yc/ *kaycoo* 'too bad'. /yc²/ *màyc²aa-wuryaa* 'one with leucoma'. /yf/ *sayfàà* 'spleen'. /yh/ *màyhimmà* 'ambitious one'. /yb/ *²àyba* 'banana'. /yb/ *sayb²ii* 'unpopularity'. /yd/ *saydààwaa* 'selling'. /yd²/ *mad²ayd²ay* 'syrup made from dried fruit' (pl.). /yg/ *bàyganì bà* 'he didn't see'. /yz/ *tuuzàyzay* 'bustards'. /yj/ *bàyji ba* 'he didn't hear'. /yr/ *gàràyray* 'white ants'. /yṛ/ *màyramà* 'scorpion' (lit. 'one with sting'). /yl/ *màylab²èèwaa* 'eavesdropper'. /ym/ *²aymaka* 'a red insect'. /yn/ *màray-nìyaa* 'orphan' (f). /yw/ *maywaa* 'a fruit', *gàẏwaa* 'eel'. /yy/ *jààyayyee* 'red ones'. /y²/ *mày²amoo* 'that which makes a report or noise'.

/²y/: *²yaa²yaa* 'children'.

Medial clusters of three consonants include all initial clusters preceded by *n* or *y* since they may be preceded by *n(a)*, *may-* 'one with' or (in the case of verbs) by *sun-*, *bay-*, etc.   We have, then:

/nkw/	/nky/	/nsw/	/ykw/	/yky/	/ysw/	/yʔy/
/nkʔw/	/nkʔy/	/nsʔw/	/ykʔw/	/ykʔy/	/ysʔw/	
/ngw/	/ngy/	/nzw/	/ygw/	/ygy/	/yzw/	

Examples of some of these not with *na* or *may* are: /nkw/ *munkwabʔèèši* 'we released him', /nky/ *kyànkyandíi* 'duffel bag', /nkʔw/ *taalankʔwàšèè* 'it bent', /nkʔy/ *kʔyànkʔyasà* 'hatching', /ykw/ *càkwaykwaywà* 'starling' (BD), /ykʔw/ *bàykʔwàntàleeší bà* 'he didn't dig him with his fingernail'.

Besides these the following clusters were noted:

/lkw/ /lkʔw/ /lky/ /lkʔy/ /lgɾ/ /rkw/ /ɾgw/ /wky/ /kkw/ /ngl/

Examples: /lkw/ *kwalkwatà* 'louse'.   /lkʔw/ *naakʔwalkʔwàleeši* 'I stripped him of hair'.   /lky/ *ʔalkyabbà* 'a burnous' (BD).   /lkʔy/ *kʔyàlkʔyàli* 'glitter'. /lgɾ/ *tàlgɾaafòò* 'telegraph'.   /rkw/ *kwarkwaroo* 'a weaver's bobbin (BD). /ɾgw/ *naàɾagwaɾgwàjeeši* 'I'll smash him to bits' (= *naàɾagaɾgàjeeši*).   /wky/ *kyàwkyaawaa* 'goodness, fineness'.   /kkw/ *tùkkwi* 'Great horned owl'.   /ngl/ *ʔinglìs* 'English'.

CHAPTER II

PHONOLOGIC ALTERNATION AND MORPHEME VARIANTS

2.1. Morpheme types. Hausa morphemes are composed of the following sequences:

1. Sequence of two or more linear phonemes or morphophonemes.

E.g. Verb base: *soo-* 'want' *z-* 'be on one's way'

    Affix: *-ii* (plural)

        CVC- (a reduplicative morpheme; see 3.3.2)

2. Sequence of one or more tone units as pattern.

E.g. Noun patterns: ' ' (all tones low until the last), ' ' (all tones high), ' ` (all tones high until the last), etc. See 3.1.2.

Verb patterns: ', ` ', ' `, etc. These are not single patterns but are tone sets with regularly conditioned patterns. See 3.1.2 and 4.5.

3. Sequence of two or more linear phonemes plus tone pattern.

E.g. Noun base: *gaašìì* 'hair'

    Particles: *toò* 'so!' *dà* 'with'

For lists of these sequences see the dictionary and also below (noun bases and affixes, Chapter III; verb bases and affixes, Chapter IV).

2.2. Regular phonologic alternation.

2.2.1. Morphophonemes involved. The rules governing these are operative when a morpheme or sequence of morphemes occurs before open juncture / ⧣ /. The phonemes and morphophonemes involved are:

/t/ *T* /z/ *Z* /n/ *N* (n) /y/ *Y* /e/ *E* (e) /i/ *I*

/d/ *D* /f/ *F* /m/ *M*   /o/ *O* /a/ *A*

Affix juncture: /-/

Phonemes without corresponding morphophonemes: /s/ /sʔ/ /w/

2.2.2. Palatalization. Before affix juncture plus /i, e/ the following replacements take place:

/t/ is replaced by /c/, /tt/by/cc/.

E.g. **bawt-ii bawcii* 'Bauchi' (proper name), **bawt-aawaa bawtaawaa* 'inhabitants of Bauchi'. *šaat-* 'to comb': **ma-šaat-ii mašaacii* 'a comb', **šaat-èè* (verb form) *kàšaacèè sùùmakkà* 'comb your hair!'. *bʔaat-* 'to spoil': **bʔaat-ì* (verb form) *yaabʔaacì* 'he's spoiled'. **ʔitt-èè ʔiccèè* 'tree', pl **ʔit-àà-t-ee ʔitààcee*.

T is optionally replaced by /t/ or /c/. One example noted: *feeT-* 'to fan': **ma-feeT-ii mafeetii* or *mafeecii* 'a fan'.

D is replaced by /d/ in all positions.

E.g. -D- (verb stem formative; see §4.2.3): *baa-* 'to give', **baa-D-* 'to give away': **baa-D-àà* (verb form) *yaabaadààši* 'he gave it away', *baadààwaa* 'giving something away', **ma-baa-D-ii mabààdii* 'one who gives away'. **cʔààD-aa cʔààdaa* 'expensiveness', pl. **cʔaaD-oD-ii cʔaadoodii*.

/dd/ is replaced by /cc/.

One example noted: **bʔadd-* 'to lose' **bʔadd-èè* (verb form) *yaabʔaccèè* 'he's lost', but **bʔadd-àà yaabʔaddààši* 'he lost it'.

/d/ is otherwise replaced by /j/.

E.g. *gid-aa gidaa 'house', also *gid-ìì gijìì; pl. of both: *gid-ààd-ee gidààjee. *kᵖund-àà kᵖundàà 'an arrow with a slug head', pl. *kᵖund-ood-ii kᵖundoojii.

/s/ is replaced by /š/, /ss/ is replaced by /šš/.

E.g. buus- 'to blow': *ma-bùùs-ii mabùùšii 'player of a wind instrument', pl. *ma-bùùs-aa mabùùsaa; *bùùs-ass-ee bùùsaššee 'a dried thing'. *dààmis-ìì dààmišìì 'leopard', f. *dààmis-àà dààmisàà.

/sᵖ/ is replaced by /cᵖ/.

E.g. ransᵖ- 'to swear an oath': *ransᵖ-èè yaaranᶜᵖèè 'he swore an oath', *ransᵖ-uwaa ransᵖuwaa 'swearing'. *duwsᵖ-ìì duucᵖìì 'rock', pl. *duw-àà-sᵖ-uu duwààsᵖuu.

/z/ is replaced by /j/.

E.g. z- 'to be on one's way': *z-ee yaajee 'he went', *z-oo yaazoo 'he came'. *giz-òò gizòò 'spider (in folklore)', pl. *giz-ààz-ee gizààjee. ciiz- 'to bite': *ma-cìiz-ii macìijii 'snake' (lit. 'biter'), *ciiz-òò ciizòò 'biting', *cìiz-èe yaacìijeenì 'he bit me'.

Z is replaced by /z/ in all positions.

E.g. *kùz-aa kùzaa 'Tin ore' (BD), pl. *kuz-ooz-ii kuzoozii.

/w/ is replaced by /y/.

E.g. *baaw-àà baawàà 'slave', pl. *baaw-ii baayii. *bᵖàraaw-òò bᵖàraawòò 'thief', pl. *bᵖàrààw-ii bᵖàrààyii.

2.2.3. Nasals.

/n/ is replaced by /m/ before close or affix juncture plus /b/, /bᵖ/, [p], /f/, or /m/. For na in the following examples see §2.3.4.

E.g. *gid-aa na barcii gidambarcii 'hotel' (lit. 'house of sleep'). bᵖaar- 'to peel': *CVn-bᵖaar- bᵖambᵖar- 'to shell' bᵖàmbᵖaràà 'shelling'. *ᵖyaa na maat-aa ᵖyammaataa 'young women' (lit. 'children of women'). *runfaa ta paawàà If the /f/ of rùnfaa is [p]: rùmpappaawàà; if it is [hʷ]: rùnfappaawàà, 'butcher's mart'. *dᵖaa na paawàà dᵖampaawàà 'butcher' (lit. 'son of the butcher's trade').

N is replaced by /m/ before / ⁑ / and /-i/, by /n/ elsewhere. Noted in one morpheme only: *mùtuN mùtum 'person', pl. *mut-àà-N-ee mutàànee; *mùtuN-cìì mùtuncìì 'respect'; with na: mùtumìndaajì 'bushman'.

(n) is replaced by zero before / ⁑ /, the preceding vowel being lengthened; by /n/ elsewhere.

E.g. *kànti(n) kàntii 'canteen, store', pl. *kàntì(n)-ay kàntìnay. *kantu(n) kantuu 'block of salt', pl. *kàntù(n)-ay kàntùnay.

/m/ is replaced by /n/ before /k, g/ before close or affix juncture.

E.g. *tum-k-ìyaa tunkìyaa 'ewe', pl. *tum-aa-k-ii tumaakii. *gam- 'to put together': *ma-CVC-gam-ii magangamii 'crossroads'.

M is replaced by /n/ before / ⁑ /, by /m/ elsewhere.

E.g. *lìimaaM lìiman, variant lìimaamìì 'Imam', pl. *lìimààM-ay lìimààmay. *maalàM maalàn 'a Mohammedan teacher', pl. *maalàM-ay maalàmay.

2.2.4. Semivowels.

Y is replaced by /w/ before /o/.

E.g. say- 'buy': *sày-aa yaasàyaa 'he bought (something)', *say-oo kàsawoošì 'buy it (and bring it here)'. kaay- 'to bring': *kaay yaakayšì 'he brought it', *kaay-oo kàkaawoošì 'bring it here!'

Vy is replaced by VV before syllabic initial CC in affix juncture, by V before CC in affix juncture otherwise.

E.g. *kwiy-oo *kwiy-kwiy-òò kwiikwiyòò 'puppy', pl. *kwìyàà-kwìy-ay kwìyààkwìyay. *sᵈàwsᵈay sᵈàwsᵈay 'disaster', *sᵈàwsᵈày-ntakà sᵈàwsᵈàntakà 'state of injury'. kaỳ 'head' *kaỳ-na-kà kaǹkà 'your head'.

/V-i/ is replaced by /Vyi/.

E.g. jaa- 'pull': *ma-jàà-ii majààyii 'one who pulls'. soo 'to want': *ma-sòò-ii masòòyii 'one who wants, lover'.

/V-o/ is replaced by /Vwo/.

E.g. jaa 'to pull': *jaa-oo jààwooši 'pull it!'

2.2.5. Replacement of /r/ by /ṛ/.

/rt/, /rn/ and /r ⧣/ are replaced by /ṛt/, /ṛn/ and /ṛ ⧣/ respectively.

E.g. bar- 'to leave', *bar yaabaṛ gidaa 'he left the house'. yaabaṛ̌šì 'he left it' (yaabaṛ-šì),[1] but *bar-i kadàkàbarì 'don't leave it'. *kàr-ee kàree 'dog', pl. *kar-nukà kaṛnukà.

2.2.6. /f/, F.

/f/ remains /f/ in all positions.

E.g. *kᵈaf-àà kᵈafàà 'foot', pl. *kᵈaf-oof-ii kᵈafoofii or *kᵈaf-àyf-ay kᵈafàyfay
      F is replaced by /h/ before /-a/.

E.g. *ᵈàrF-aa ᵈàrhaa 'cheapness', pl. *ᵈarF-ooF-ii ᵈarfoofii. *kiiF-ii kiifii 'fish', pl. *kiiF-ààyee kiihààyee. *ᵈàràF-iyàà ᵈàràfiyàà 'fine thread', pl. *ᵈàràF-ay ᵈàràhay.

2.2.7. Vowels in closed syllables.

Before /C ⧣/ and /CC/ other than those listed in 1.14.3 (compare replacement of Vy in 2.2.4) the following replacements take place:

/ii/, /uu/, and /aa/ are replaced by /i/, /u/, and /a/ respectively.

/ee/ is replaced by /a/.

/oo/ is replaced by /wa/ after /k, kᵈ, g, d/, by /a/ elsewhere. Before /naC/ the last two (/ee/ and /oo/) sets of changes are optional.—For example:

/ii/ ∼ /i/. daadᵈii 'pleasure', *dààdᵈìì-ntakà dààdᵈìntakà 'pleasantness'. tààfii 'palm or sole', *tààfii na hannuu tààfinhannuu 'palm of the hand'.

/uu/ ∼ /u/. muugùù 'an evil person', *mùùgùù-ntaa mùgùntaa 'evil' (for muug- mug- see 2.3.2). hannuu 'hand', *hannuu na hagùù hannunhagùù 'left hand'.

/aa/ ∼ /a/. saaᵈàà 'luck', *sààᵈàà-ntaa sààᵈàntaa 'luck'. màataa 'woman, wife', *màataa ta šii màataššì 'his wife'. *làadaan làadan 'muezzin', also làadaanìì.

/ee/ ∼ /a/. gàjeeree 'a short one', *gàjèèr-taa gàjàrtaa 'shortness'. cᵈinkèè 'a pointed object', *cᵈinkèè-ntakà cᵈinkàntakà 'pointedness'. zawrèè 'reception hall', *zawrèè na ᵈàlkaalii zawrèènᵈàlkaalii or zawrànᵈàlkaalii 'the judge's reception hall'.

/oo/ ∼ /wa/, /a/. *kᵈoor-yaa kᵈwaryaa 'a large calabash', pl. *kᵈoor-inà kᵈoorinà. mòòriyaa 'usefulness', *CVC-moor-aa mammooraa 'usefulness'. doogoo 'long', *doogoo na kᵈwàbrii doogwankᵈwàbrii 'a long shin'; *doogoo na guurìì doogoonguurìì 'a long hope'. tààkoo 'hoof', *tààkoo na kᵈafàà tààkoonkᵈafàà or tààkwankᵈafàà 'hoof of the foot'. ᵈidòò 'eye', *ᵈidòò na kᵈafàà ᵈidòònkᵈafàà or

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[1] bar- is replaced by baṛ before / ⧣ /. The resulting baṛ is used throughout the paradigm, even when suffixes in close juncture follow.

ʔidwànkʔafàà 'ankle' (lit. 'eye of the foot'), *ʔidòò na màagee ʔidòòmmàagee 'a kind of shiny green bead' (lit. 'cat's eye').

Note: This change of phonemes takes place after the replacement by palatalization in 2.2.2 so that, for example, dàšee [*dàs-ee] 'transplanting' retains the phoneme /š/ in *dàšee na ʔiccèè dàšanʔiccèè 'the transplanting of a tree'.

2.2.8. Morphophonemes E, (e), O, A, I. These occur in verb bases of CVC pattern.

E is replaced by /ii/ before -aa (noun base formative, 3.2.3), by /ee/ elsewhere: ʃEdʔ- 'to flay', *ʃEdʔ-àà ʃiidʔàà 'flaying', *ma-ʃÊdʔ-ii mafèèdʔii 'flayer, pl. mafèèdʔaa. ʃEr- 'to chip bits from', *ʃEr-àà ʃiiràà 'chipping bits from', *ma-ʃEr-ii mafèèrii 'one who decorates calabashes by chipping off little bits', *ʃÊr-ee šinà fèèreenduucʔii 'he's chipping rock'.

(e) is replaced by /ii/ before -aa (verb stem formative, 4.1.2), by /ee/ elsewhere: ʔ(è)b- 'to take from', *ʔ(e)b-àà yaaʔiibàà 'he fetched a little', *ʔ(è)b-ee/-i yaaʔèèbeešì 'he fetched a little of it' kàʔèèbì ruwaa 'fetch a little water!' ('fetch' in these examples means 'take some from', as water from the well).

O is replaced by /uu/ before -aa, -aCCee (noun formatives, 3.2.3), by /oo/ elsewhere: kOk- 'to cry', *kOk-aa kuukaa 'crying', *ma-kOk-ii makookii 'house of mourning', *kOk-àà yaakookàà 'he cried' (verb stem). kOdʔ- 'to sharpen a tool', *kOd-àà kuudʔàà 'sharpening a tool', *kÔdʔ-aCCee kùùdʔaddʔee 'a sharpened one', *ma-kÔdʔ-ii makòòdʔii 'one who sharpens tools', *kOdʔ-àà (verb stem) naakoodʔààta 'I sharpened it'.

A is replaced by /i/ before -ii (noun formative, 3.2.3), by /a/ elsewhere: kAs- 'to kill', *kAs-ìì kišìì 'killing', *kAs-èè (verb stem) yaakašèèši 'he killed him'. rAs- 'lack' (BD), *rAs-ìì rišìì 'lack' (noun) as in màyrišìnkunyà 'one who lacks shame, shameless person', *rAs-àà (verb stem) yaarasààni 'he lost me'. kAdʔ- 'to beat' *kAdʔ-ìì kidʔìì 'beating', *ma-kÀdʔ-ii makàdʔii 'one who beats'.

I is replaced, apparently optionally, by /u/ or /i/: rIf- 'to cover', *rIf-àà (verb stem) rùfaani dà bàrgoo 'cover me with a blanket', *rIf-èè (verb stem) naarifèè gìdaanaa 'I closed my house', *rÌf-ee (verb stem) ʔinà soombàrgoo šìrìfeeni 'I want a blanket to cover me', rùfeeni 'cover me!', *rIf-aa 'covering' màyrufaʔʔidòò 'sleight of hand expert' (lit. 'eye-closer').

2.3. Variants of individual morphemes.

2.3.1. Noun variants before open juncture. Some nouns have more than one base used in parallel. Such are: lààdan, lààdaanì 'muezzin'; lààdan, but not lààdaanì, may also be used as a personal name. lìyaɽ, lìyaaɽì 'Maria Theresa dollar' (BD). šàrif, šàrììfì 'one who claims descent from Mohammed' (BD). mùtum, mùtumì 'person'. The forms in -ì are found before na, as mùtumìndaajìì 'bushman'. ʔaɽnèè pl. ʔaɽnaa, ʔannèè pl. ʔannaa 'pagan'. (Replacement of /ɽ/ by /n/ before /n/ may belong on the phonologic, not the morphemic, level.) ʔabdùgàà, ʔaddùgàà 'cotton'.

2.3.2. Noun variants before affix juncture /-/. A large number of morphemes have replacement forms before affix juncture. The following were noted: ʔàbookii 'a friend' ∼ (is replaced by) ʔabuk- before -ay: ʔàbùkay 'friends', by ʔabu- before -taa: ʔàbùtaa 'friendship', optionally by ʔab- before -iyaa: ʔàbookiyàà

'friend' (f.) and *ʔàbiyàà* (*ʔàbiyàà* is to be preferred, as *ʔàbookiyàà* has bad connotations; this is reversed in some dialects). *ʔàkwiyàà* 'she goat' ~ *ʔaawk-* before *-ii* (pl.): *ʔaawaakii* 'she goats'. *dookìì* 'horse' ~ *daawk-* before *-ii* (pl.): *daawaakii*. *buuzuu* 'runaway Tuareg slave' ~ *bugz-* before *-ee* (pl.): *bugààjee*. (For the last three examples see 3.6.4, 5.) *dʔaa* 'child' ~ *ʔy-* before *-aa* (pl.): *ʔyaaʔyaa*. *falkee* 'trader' ~ *fatk-* before *-ee* (pl.): *fatààkee*. *kaỳ* 'head' ~ *kaan-* before *-uu* (pl.): *kaanuu*. *kudʔii* 'money' ~ *kurdʔ-* before *-aayee* (pl.): *kurdʔààyee*. *muugùù* 'evil one' ~ *mugu-* before *-nyaa* and *-ntaa*: *mugunyàà* 'evil one (f.)' *mùgùntaa* 'evil'. *saà* 'ox' ~ *saan-* before *-uwaa*: *saanùwaa* 'cow', *šaan-* before *-uu* (pl.): *šaanuu* 'cattle'. *sarkii* 'king' ~ *saraw-* before *-niyaa* and *-taa*: *sàrawnìyaa* 'queen', *sàrawtàà* 'government'. *sarmàyii* 'young man' ~ *samaar-* before *-ii* (pl.): *sàmààrii*. *šèètan* ~ *šeedʔan-* before *-Cuu* (pl.): *šèèdʔànnuu*. *waà* 'older brother' ~ *yayy-* before *-ee* (pl.): *yayyee*. *zazzàw* 'Zaria' (place name) ~ *zazzag-* with *ba*—*ee* and *-aawaa*: *bàzazzagèè* 'native of Zaria', pl. *zazzagaawaa*.

2.3.3. Pronoun alternants. The following chart gives the variants of the personal pronouns (and the impersonal *ʔa*). No form is given twice, a blank indicating that the form is the same as the last given. A dash indicates that the form does not occur (was not recorded) in that position. In this way each form and its uses are readily seen. For example *ta* is used before *na* and *kèè*, sometimes after verbs, and after *na-*. For *šii* (and *ʔa*) optional variants are given and the occurrence or non-occurrence of each plotted. An asterisk indicates that the tone varies and is determined by the context. Otherwise the tone is given by the spelling of the form in the chart.

An interesting line of division is that between the pronouns in Group 2 which add a vowel and those which add an *n*. The forms of those with *n* are more regular throughout than those with double vowels. The impersonal *ʔa* has both and forms a separate classification. The order of pronouns in the chart is on the basis of this division. *ʔita* and *kay* are placed next to the *n* group because of the similar distribution of variants.

Groups 2, 10, 11 refer to variants before verbs. These variants are pronominal prefixes, forming the different tenses or aspects of the verb. The tense or aspect is indicated by the pronominal accent pattern, which ¦also conditions the form of the pronoun. These accent patterns are: ′ ′ perfective, ′ ‵ future, ‵ optative. ‵ is used with the negative *bà* (11) for negative perfective and with *zaà-* (11) for future. Note that in this analysis there is no 'present' or 'progressive' tense or aspect of the verb. This is analyzed as a pronoun-*na*-noun construction and represented by Group 3 pronouns plus *na* plus a noun. (See 2.3.4)

Chart of Pronoun Alternants[2]

	'I'	'he'		'she'	'you' (sg.m.)	'you' (sg.f.)	'we'	'you' (pl.)	'they'	impers

[2] A pronoun chart based on Abraham (MGSH) may be added for comparison:

	'I'	'he'		'she'	'you' (sg.m.)	'you' (sg.f.)	'we'	'you' (pl.)	'they'	impers
1.	nii	—	šii	—	—	—	—	—	Ɂita	kay — kee — muu kuu suu —
2.	—	—	—	—	ỳ	—	—	—	—	— — — — —
*3.	naa	—	—	—	yaa	—	—	—	taa	— kyaa — maa kwaa saa Ɂaa
4.		—	—	—	—	—	—	—	— kin — mun kun sun Ɂan

1.	*nii*	*šii*	—	—	*ʔita*	*kay*	*kee*	*muu*	*kuu*	*suu*	—	—
*2.	*naa*	—	*yaa*	—	*taa*	*kaa*	*kin*	*mun*	*kun*	*sun*	*ʔan*	*ʔaa*
3.	*ʔi*	*ši*	*ya*	*yi*	*ta*	*ka*	*ki*	*mu*	*ku*	*su*	—	*ʔa*
4.	*ni*										—	
5.											—	—
*6.	zero	—	—								—	—
7.	*wa*	*ši*	—	—	*tà*	*kà*	*kì*	*mù*	*kù*	*sù*	—	—
8.	*nì*	—	—								—	—
9.			*yà*	—							—	*ʔà*
10.	*ʔìn*										—	
11.	*ǹ*	—	*ỳ*	—							*ʔàn*	
12.	—	—		—	—	—	—	—	—	—	—	—

Context:
1. in ⧣P⧣, before *-nee*.   7. after *na-*.
2. with ′ ′, ′ ‵ before verbs.   8. after *ma-*, sometimes after verb.
3. before *na*   9. after *baà*, *zaà*.
4. before *kèè*, *kà*   10. with ‵ before verbs.
5. Sometimes after verb.   11. with ‵ after *bà-* and *zaà-* before verbs.
6. after *na*   12. after *mà-*.

Examples (in paradigm form where convenient):
1. *kùzoo dà nii* 'come with me'.   *niinèè* 'it's I'.   *naagàmu dà šii* 'I met (with)

5.	ni	na			ya	—	yi	i	ta	ka	—	ki	—	mu	ku	su	ʔa
6.	—		—	—	—		—	—	—	—		—		—			
7.	—		—	—	—		—	—	—	—		—		—			
8.	—	ši	—	—	—		—	—	—	—		—		—			
*9.		—		—	—		—	—	—	—		—		—			
10.	n	—		—	—		—	—	—	—		—		—			
11.	nì	ǹ	sì	sà	s	—	—	—	tà	kà	a	kì	a	nà	kù	sù	—
12.	—				yà	—	yì	ì				—	—	mù			ʔà
13.	—				—		—	—				—		—			
14.	—				—		—	—				—		—			
15.	zero				—		—	—				—		—			
16.	wa				—		—	—				—		—			

Uses and references:
1. Before ⧣. Independent pronoun. MGSH 30.
2. After *mà-*; MGSH 33.
3. With ‶ after *baa*, with ‶ before verbs; MGSH 15, 74, 154.
4. With ‶ before verbs; MGSH 11, 12, 154.
5. Before *kèè*, *kè*; MGSH 85, 155.
6. Before *kà* (*kì* to *ʔa*) or verb (*na* to *ka*); MGSH 85f, 156.
7. Before *kàn*; MGSH 13, 154.
8. After (as alternate) *baà*, *zaà*; MGSH 14, 15, 17.
9. After verb; MGSH 32.
10. Before *nàà*; MGSH 14, 155.
11. After *ma-*; MGSH 32.
12. With ‵ before verbs; MGSH 12, 13.
13. After *zaa-* (*zaà-*); MGSH 13.
14. After *bà*; MGSH 16.
15. After *na*, *ta*; MGSH 30.
16. After *na-*; MGSH 31.

him'. *kòòmoo ?ita* 'like her'. *kay kaasanšì* 'you know him'. *kee kinsaniì?* 'do you (f.) know?' *mùtumìnkòòmoo muunèè* 'they are men like us'. *nii ?inà tàmaanìì // kòòmoo kuu biyuunèè* 'I thought there were two of you'. *yaayi màgànà dà suu* 'he talked with them'.

2. Verb prefixes (tone patterns ', ' '). 5. Verb object (8. Verb object with low tone, optional). No particular order is used with the pronoun objects. The order of prefix forms is the traditional one.

naakaamààši 'I seized him'	*munkaamààsu* 'we seized them'
kaakaamààni 'you seized me'	*kunkaamààmu* 'you (pl.) seized us'
kinkaamààta 'you (f.) seized her'	
yaakaamààka 'he seized you (m.)'	*sunkaamààku* 'they seized you (pl.)'
?aakaamààši 'he was seized'	*?anhàyfeenì* 'I was born'
naàkaamààši 'I'll seize him'	*munkaamààsu* 'we'll seize them'
kaàkaamààni 'you'll seize me'	*kunkaamààmu* 'you (pl.) will seize us'
kiǹkaamààta 'you (f.) will seize her'	
yaàkaamààka 'he'll seize you'	*sunkaamààku* 'they'll seize you (pl.)'
taàkaamààki 'she'll seize you (f.)'	
?aàyiišì 'it will be done'	

3. Pronoun-*na*-noun

?inà zuwà 'I'm coming'	*munà zuwà* 'we're coming'
kanà zuwà 'you're coming'	*kunà zuwà* 'you (pl.) are coming'
kinà zuwà 'you (f.) are coming'	
šinà (yanà, yìnà) zuwà 'he's coming'	*sunà zuwà* 'they're coming'
tanà zuwà 'she's coming'	
?anà ruwaa 'it's raining'	

4. Pronoun plus *kee* or *ka* (rare)

hakàà nikèè 'thus I am'	*hakàà mukèè* 'thus we are'
bisà kakèè 'you are on top'	*hakàà kukèè* 'thus you are'
hakàà kikèè 'thus you (f.) are'	
hakàà šikèè (yakèè, yikèè) 'thus he (it) is'	*?àbin//dà sukèè yìì* 'the thing they're doing'
takèè bid?aa 'she's hunting'	
k?àà ?akèè kirankà 'what (how) are you called?'	
sukà taaràà 'they assemble'	

6. *na* and *ta* plus pronoun (see 2.3.4).

?ùbaanaa 'my father'	*?ùwaataa* 'my mother'
?ùbankà 'your father'	*?ùwakkà* 'your mother'
?ùbankì 'your (f.) father'	*?ùwakkì* 'your (f.) mother'
?ùbanšì 'his father'	*?ùwaššì* 'his mother'
?ùbantà 'her father'	*?ùwattà* 'her mother'
?ùbammù 'our father'	*?ùwammù* 'our mother'
?ùbankù 'your (pl.) father'	*?ùwakkù* 'your (pl.) mother'
?ùbansù 'their father'	*?ùwassù* 'their mother'

Tone on all but *naa* and *taa* may be high or low. It is usually low.

7. After *na-*. (see 2.3.4).

nàáwa 'mine (man speaking)'   naamù 'ours'
tàáwa 'mine (woman speaking)'
naakà 'yours (possessor sg. m.)'   naakù 'yours (possessor pl.)'
naakì 'yours (possessor sg. f.)
naašì 'his'   naasù 'theirs'
naatà 'hers'

8. After ma-, gàree, sometimes after verb (see above under 2).
manì 'to me'   mamù 'to us'
makà 'to you'   makù 'to you' (pl.)
makì 'to you' (f.)
mašì 'to him'   masù 'to them'
matà 'to her'
kàbaani ʔàràntakà gàreekà 'loan   me
                              something
                              of yours'
kudʔii nawà gàreešìʔ 'how much money
                              does he have?

9. After baà, zaà-.
baànì zuwà 'I'm not coming'   baàmù zuwà 'we're not coming'
baàkà zuwà 'you're not coming'   baàkù zuwà 'you (pl.) aren't coming'
baàkì zuwà 'you (f.) aren't coming'
baàšì (baayà) zuwà 'he's not coming'   baàsu zuwà 'they're not coming'
baàtà zuwà 'she's not coming'
baàʔà saà makà suṛdìì 'a saddle won't
                              (i.e. can't) be
                              put on you'
zaànì 'I'm going'   zaàmù 'we're going'
ʔìnaa zaàkàʔ 'where are you going?'   zaàkù 'you're going'
zaàkì 'you (f.) are going'
zaàšì (zaàyà) 'he's going'   zaàsù 'they're going'
zaàtà 'she's going'
zaàʔà yaakʔìì 'there'll be war (lit. one
                              will fight)'

10. With ʿ before verbs.[3]
ʔìnzoo 'that I come'   mùzoo 'that we come'
kàzoo 'that you come', 'come!'   kùzoo 'that you (pl.) come', 'come!'
kìzoo 'that you (f.) come', 'come!'
šìzoo 'that he come'   sùzoo 'that they come'
tàzoo 'that she come'
ʔàgoodèè makà 'thank you' (may one
                              thank you)
Examples in context: mùbaṛ fadʔàà wannàn 'let's leave (i.e. quit) this fighting'.
yaaceè // kùbaṛ ʔaykìngoonaa // kùzoo dà nii 'he said "Leave the working of
the farm.   Come with me" '.

11. With ʿ after bà- and zaà- before verbs.

³ This is the form used after kadà.

bànzoo ba 'I didn't come'   *bàmùzoo ba* 'we didn't come'
bàkàzoo ba 'you didn't come'   *bàkùzoo ba* 'you (pl.) didn't come'
bàkìzoo ba 'you (f.) didn't come'
bàyzoo ba 'he didn't come'   *bàsùzoo ba* 'they didn't come'
bàtàzoo ba 'she didn't come'
bàˀànkwaanaa dà muu ba 'they didn't
                                    sleep with
                                    us', 'we
                                    weren't
                                    slept with'

With *zaa-* examples were not so common.

mìì zaàńyi 'what should I do?'   *zaamùwankèè zanì* 'we'll wash the
                                                    clothes'

mììneenèè // zaàkàyi? 'what are you go-   *mììneeèè // zaàkùceè* 'what will you say?'
          ing to do?'
zaàyhàbreekà 'he'll kick you'   *zaàsùkašèèši* 'they'll kill him'
zaàˀàkašèèšì 'he will be killed'

12. Only two pronominal forms occur after *mà-*: *y* and *sù*. The combination *mày-*, pl. *mààsù-*, means 'one who has', followed by a noun or its equivalent. E.g. *màymantuwaa* 'one who has forgetfulness', i.e. 'a forgetful person', pl. *mààsumantuwaa*; *mààsùkašèè mutààneenèè* 'they're people who kill men'.

2.3.4. *na*, *ta*.[4]

Using the symbol C[1] for a consonant identical with the following consonant and a hyphen to indicate affix juncture, we have these forms and constructions.

na: noun *n* noun / pronoun / phrase
        pronoun / noun *nà* noun / adverb / phrase
               nà noun
               na- noun
               nàà- pronoun *nii*
        m. noun *naa* pronoun *nii*
               naa- pronoun other than *nii*
ta: noun C[1] noun / pronoun / (phrase)
               ta- noun
               tàà- pronoun *nii*
        f. noun *taa* pronoun *nii*
               taa- pronoun other than *nii*

These may be stated:

na is *nàà* in the sequence *na-* + pronoun *nii*
        naa in the sequences m. noun + *na* + *nii*, *na* + pronoun other than *nii*
        na (accent variable) in the sequence *na-* + noun
        nà (accent invariable) in the sequences pronoun *na* + N, *na* + noun,
            and optionally in other NnaN constructions
        n in all other NnaN sequences
ta is *tàà* in the sequence *ta-* + pronoun *nii*
        taa in the sequences f. noun + *ta* + *nii*, *ta-* + pronoun other than *nii*
        ta in the sequence *ta-* + noun

[4] See MA.

C¹ in NtaN sequences

Examples (listed according to the first chart) are:

n   *bàbbansʔunsʔuu* 'big bird' (*bàbba* 'a big one, *n* 'of' *sʔunsʔuu* 'bird').
ʔàbookinši 'his friend' (*ʔàbookii* 'friend', *n* 'of', *ši* 'him'). *nii bànkulàà bà // ʔàbin//dà suncèè* 'I don't care what they say' (*ʔàbi-* 'thing', *n* 'of', *dà* 'that, with' *suncèè* 'they said').

nà   *šinà ʔìgiyàʿ* he makes rope' (*šii* 'he', *nà*, *ʔìgiyà* 'rope'). *baaree nàduuniyà* 'stranger in (*nà*) the world'. *šinà ʔìnaa* 'where is he?' (lit. 'he of where'). *šinà dà kudʔii dà yawà* 'he has a lot of money' ('he', *nà*, *da kudʔii dà yawà* 'with a lot of money'). *bàà nàfatalwaa ba* 'it's not supernatural' (*bàà ... bà* 'it's not', *nà* 'of', *fatalwaa* 'a ghost').

na-   *koomii nà duuniàà // namaataanèè* 'everything in (*nà*) the world pertains to (*na-*) women'.[5]

nàà-   *nààwanèè* 'it's mine' (*nà* 'of', *nii* 'I', *nee* 'it is'; *nii* > *wa* after *na-*).

naa   *ʔùbaanaa* 'my father' (*ʔùbaa* 'father, *na* 'of', *nii* 'I'; *nii* > zero after *na*).

naa-   *baàkà da naakà // say nawani* 'you have nothing of your own (*naakà*)— just that which belongs to someone else'. *wannàn // naakìnee* 'this is yours (possessor feminine)'. *naaŝì* 'his'.

Variants of *ta*:

C¹   *hanyàjjirgii* 'railroad track' (*hanyà* 'road', *ta* 'of', *jirgii* 'train'). *màganàttùùrààwaa* 'European language' (*màganà* 'speech', *ta* 'of', *tùùrààwaa* 'Europeans'). *ʔùwakkà* 'your mother' (*ʔùwaa* 'mother', *ta* 'of', *ka* 'you').

ta-   *tagàri* 'a good woman'

tàà-   *tààwacèè* 'it's mine' (possessed feminine)

taa   *dʔìyaataacèè* 'she's my daughter' (*dʔìyaa* 'daughter', *ta'* 'of', *nii* 'I'—here zero, *cee* 'is (f.)')

taa-   *taakà* 'yours' (possessor masculine, possessed feminine),
       taakì 'yours' (possessor and possessed both feminine), etc.

Note: Only *na* occurs after a pronoun or a plural noun.

2.3.5. The indefinite *wa-*. There are a number of words in which a morpheme *wa-* is found. This *wa-* has a plural *waʔà-* or *wadʔà-*. Compare:

wani 'someone' f. *wata*, pl. *waʔànsu, wasuu*

wànì 'which?' f. *wàtà* (pl. not noted)

wànèè 'which?' f. *wàcèè* (pl. *wàdʔànnèè* —BD)

wanʔìn 'that one' (f. *waʔin*, pl. *waʔanʔìñ*—BD)

wannàn 'this one' (pl. *wadʔànnàn*—BD)

wannañ 'the other one' that one' pl. *waʔànnan*

As noted, some forms were supplied from Bargery with spelling modified. The feminine form *waʔin* might possibly be *waʔʔin*, that is, have the morpheme *ta* (C¹ = *ʔ* before *ʔ*). Compare the masculine *wa-n-ʔin* with *wa-n-cañ* below and feminine **wa-ʔ-ʔin* with *wa-c-cañ*. Bargery also has (for the Katsina dialect):

wancañ 'that one' f. *waccan* pl. *wàdʔàncàn*

Some of the above list of forms transparently contain *na* or *ta*:

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[5] The distinction between *nà* and *na-* (*tà* and *ta-*) is based mainly on the words *nagàri*, *tagàri*, *nàgàrtaa*. The difference in tone apparently supports the distinction maintained in MA, but the two may be the same (or may be differentiated on different grounds). The difference should not be pressed without further study.

wa-n-ʔìn (compare *ʔìn* 'there'), *wa-n-nàn* (*naǹ* 'here'), *wa-n-naǹ* (*nan* 'there'), the plurals being *waʔà-n-ʔìǹ, waʔà-n-naǹ, waʔà-n-nan*. *wànèè* and *wàcèè* are *wa*-plus *-nee, -cee* (the same morphemes as *nee* 'is (m.)', *cee* 'is (f.)'?); *wata* (also *wàtà*) is *wa-ta* (*ta*, 2.3.4); *waʔàǹsu* is *waʔà-na-su* (*na*, 2.3.4, *suu* 'they') and *wasuu wa-suu*. Bargery gives also *wasuu*, which would be *wa-s-su* (*wa-ta-suu*). We have left *wani, wànì*, for which no analysis is apparent, unless *ni* be a morpheme alternant of *na*. *wani* has a varient *wan* before *dà*: *koowandà* 'whoever . . .'.

Since the morpheme *wa-* has gender (both m. and f.) and number and appears to occur only before *na, ta, nee, cee*, it may be classed as a pronominal bound form.[6]

2.3.6. Interrogative pronouns *mìì, wàà*. The following forms were recorded:
wàà 'who', m. *wàànèè*, f. *wààcèè*
mìì 'what', also *mììnèè*
We have the same *-nee, -cee* as after *wa-*. The compounds *wàànèè* and *mììnèè* are often found before *-nee* 'is' and *wààcèè* before *-cee* 'is': *wààneenèè, wààceecèè* 'who is it?', *mììneenèè* 'what is it?'.[7]

wàà and *mìì* are replaced by *waa, mii* (high tone) after *koo*: *koomii* 'everything', *koowaa* 'everybody'. Whether *waa* is the same morpheme as the *wa-* of 2.3.5 is unclear but certainly possible.

2.3.7. Verb *yi*. In the sequence /nyi m/ *yi* is replaced by zero with resultant close juncture between /n/ and /m/: /mm/. This is an optional but nevertheless usual replacement. Examples: *summaš̀ì bʔànnaa* for *sunyi maš̀ì bʔànnaa* 'they caused him damage'; *summàganà* for *sunyi màganà* 'they talked'.

2.3.8. Negative *baa*. The negative morpheme *baa* has the following variants (partially conditioned by syntactic replacement possibilities):

baà   in *baa*-pronoun
bàà . . . ba   in *baa* plus noun or pronoun when replaceable by noun (or pronoun) plus *nee/cee*
baà or *baabù* in *baa* plus noun elsewhere
bà . . . ba   in *baa*-pronoun (+')- verb

Where there is a second *ba*, it is enclitic, following the tone of the preceding morpheme. Examples of these variants are:

baà-pronoun. *dà ŗaanaa baàš̀ì gani // dàdà daree šìnà gani*. 'he doesn't (can't) see by day, but he sees by night'. *baàš̀ì naǹ* 'he's not here'.

bàà pronoun *ba*. *bàà šiinèè yaadʔàwkì jirgii ba* 'it wasn't he that took (literally) the train'. This is replaceable by *šiinèè yaadʔàwkì*, etc. *bàà* noun *ba*. *kàree // bàà zumùnkuuraa ba*. 'the dog is not the hyaena's friend'. (Compare *kàree zumùùnee* 'the dog is a friend'.)

baà and *baabù* with nouns elsewhere seem to be interchangeable. *baabù zaalumcìì ʔà sʔàkaaninsù* 'there's no rivalry between them'. *kàree dà kuuraa // baabù ʔàmaanàà*. 'with the dog and the hyaena there's no peace'. *kaakašèèš̀i // baà jinii* '(if) you kill him, there's no blood'. *jikinš̀ì // baà jinii*. 'there's no blood in its body'. *wurii wannàn // baabù kùŗan*. 'there was no Koran in that place'.

bà-pronoun-verb *ba*. *nii bàngani ba // hakàà suncèè*. I didn't see it; that's what they said'. See 2.3.3 (No. 11).

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[6] Compare SH 79, 80.

[7] The final low of *-eè* goes to the *-nee* or *-cee*, which otherwise has the opposite tone to that of the preceding morpheme final.

MORPHOLOGY OF THE NOUN

3.1. Introduction.

3.1.1. Bases. Since nouns have bases derived from verbs as well as straight nominal bases, a word must be said concerning the nature of these types of morphemes. As seen in 2.1, there is a fundamental difference between them. The noun base is complete with tone pattern and becomes a 'word' (the singular) before open juncture / ⚬ /. All affixes are attached directly or indirectly to this base, usually with loss to the original base. The base is hypothetical only in regard to morpheme variants, the rules of which are not operative until the morpheme is before open juncture. Verbs, on the other hand, have as bases toneless forms ending in affix juncture / — /. This base is hypothetical, having been abstracted from existing forms, and from it all forms may be made by the addition of affixes (tones, endings, etc.). The verb stems (base plus [prefix plus] tone plus ending) are regular, and these are the forms which correspond to the noun base in usage, i.e. they may occur before / ⚬ /. But in word formation the noun base is treated in a way parallel to the verb base, not to the verb stems. All affixes are added respectively to noun base or verb base (though they may be applied in different levels).

3.1.2. Tone. Nouns and verbs also differ in the nature of the tone patterns applied to them. Noun tone patterns may be represented in a simplified form, since most of them pattern as though beginning from the end of the word. The last tone given (reading from right to left) is the tone of all preceding syllables. In this way the patterns ` ´, ` ` ´, ` ` ` ´ may all be represented by ` ´, e.g. *fà̀rii* 'locusts', *jìmìnay* 'ostriches', *c²àǎdàɽàkay* '(a certain kind of) snakes'. In any tone pattern (noun or verb) two like tones on a geminate vowel are treated as one tone (*fà̀rii* has pattern ` ´, not ` ` ` ´). If the last two tones are high and the rest low, ` ´ ´ is written, e.g. *b²àreewaa*. To indicate all tones high, ´ ´ is used, though this could have been represented by ´ alone. E.g. *maataa* 'women', *bušiyaa* 'hedgehog'. ´ ` indicates all high until the last tone, e.g. *k²anèè* 'younger brother', *baranyàà* 'servant girl', *kaɽnukà* 'dogs'. As many tones are given as necessary. This sometimes means the whole pattern of the word, but oftener it may be abbreviated: ` ´ ` ´ for *²àlbarkàcii* 'blessing' but ` ´ for *càkwàykwàyay* 'starlings'. One pattern, with first and last syllables high and all intermediate ones low, is most conveniently represented by ´ ` (´)´, the (´) representing the possibility of an indeterminate number of other medial low syllables (examples 3.2.3, 3.6.2, 5). In contrast the verb tone pattern indicates a whole set of patterns (see 4.5), nor is it convenient to use abbreviated symbols. However, a deverbal noun (see 3.2.3) acts as any other noun in regard to tone.[1]

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[1] This discussion has not taken into consideration variation in noun tone patterns. Compare PH 33, 34, MGSH 18, 19. The two nouns noted with all low tones (*²àbù, màcèè*) are *²àbu, màcee* when before pause and before *nee, cee*. Before *na, ²àbù* is replaced by *²àbi*. Such changes may well be relegated to Chapter 2 as phonologic phenomena or morpheme

3.1.3. Levels of formation. There are two levels of noun formation, stem formation and affixes to the stem. The stem is the foundation of all word final affixes to nouns. On this stem level we have two types, noun bases as stems and extended stems. The noun base is made up of the linear phonemes plus the tone pattern of the singular. Noun forms are given as occurring before / # /, so that the rules of chapter II are operative. Where a hypothetical form is necessary, it is indicated with an asterisk (*). Extended stems are only found with affixes (see 3.6).

3.1.4. Forms of the stem. The following forms of the stem occur:

I. Base as stem
  A. Noun bases
    1. Simple noun
    2. Noun bases from verb bases
      a. Verbal nouns (nouns identical in form with verb stem)
      b. Deverbal nouns (formed from the verb base by the addition of tone patterns and endings)
  B. Extended noun bases
    1. Reduplicated bases (with change of tone pattern)
      a. Complete reduplication
      b. Reduplication after loss of final vowel
    2. Prefix formations
      a. *ba-*
      b. CVC- (3 mora)
    3. Suffix formation -CVC
II. Extended stems (bases after loss but with addition before the affixes are added)
  A. Complete reduplication replacing the final vowel of the first element by *-aa-*
  B. Prefix formations
    1. *ba-*
    2. *ma-*
    3. CVC-
  C. Infix formations
    1. Reduplication (3 mora)
    2. Replacement vowels
  D. Suffix formations
    1. *-t-*, *-nt-*
    2. -C-
    3. Reduplication (3 mora)

Note that the prefix *ba-* is a formative element in both I. and II. The prefix *ma-* of II.B.2 is also an element in the formation of nouns from verb bases, I.A.2 (see 3.2.3).

3.2. Base as stem.

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alternants. No observable regularity was noted to distinguish adverbial use of nouns, though tone varied in some cases: *gìdaa, gidaa*. Ordinarily tone phrase juncture precedes a noun used adverbially.

References in this chapter are mainly to Abraham (PH, MGSH). Most other works neglect tone, some even vowel length or other vital phonemic matters.

3.2.1. Simple noun. The simple noun forms by far the largest class of noun bases. Examples: *gaašìì* 'hair', *duuc²ìì* 'rock', *daree* 'night'.

3.2.2. Verbal nouns.[2] Of the nouns from verb bases we call those 'verbal nouns' which are identical in form with the stem of the verb. Verbs having the following tone sets and vowel suffixes may also use the stem of the verb (with the key tone pattern of the set, see 4.5) as a noun:

` ` *-ee, -aa, -i*   ` ` *-i, -aa*   ` ` ` *-aa*      ` ` ` *-aa*

E.g. *zàdb²ee* 'to choose one of a few', *ɾaanazzàdb²ee* 'day of choosing' (election day), *sunà zàdb²eenšì* 'they are choosing him'. *cìkaa* 'to be full', *cìkaššèèkaràà* 'the filling (i.e. end) of the year'. *k²òòši* 'to be full', *k²òòšii* 'sufficiency', *kay baàkà dà k²òòšinkud²ii* 'you don't have enough ('a sufficiency of') money'. *rìnjaayàà* 'to be lopsided, prevail (?)', *yaayi rìnjaayàà* 'it's become lopsided' (lit. 'it has made lopsidedness'). *gani* 'to see', *gani* 'seeing'. *s²uufaa* 'to become old', *kanà s²uufaa* 'you are getting old'. *gàwgàwtaa* 'to boast of ability not possessed', *kanà dà gàwgàwtaa* 'you have the habit of boasting of ability not yours'.

3.2.3. Deverbal nouns. Any of the above verb stems may be used as a noun, but often a deverbal noun is used instead (always for stems other than the above). These are formed by the addition of affixes to the verb base. The meaning sometimes departs from the meaning of the stem forms from the same base, although frequently they are used in connection with specific stems. In forming deverbal nouns from the base the following combinations of affixes were noted:

` `	*-ii,*	*-ee,*	*-uu,*	*-aa,*	*-oo,*	*-aw*		
` `	*-ii,*	*-ee,*	*-uu,*	*-aa,*	*-oo,*	*-woo,*	*-uwa,*	*-zero*
` ` `				*-aa*		` ` `	*-uwaa*	
` ` `		*-ee*		*-aa*				*-iyaa, -uutu*
` ` `				*-aa*			*-uwaa, -iyaa,*	*-aCCee*
` `	*-ii,*	*-ee*		*-aa,*	*-oo,*	*-ay,*	*-uwaa -iyaa,*	*ma - - V*
` `(`) `								*ma - - ii*

Particular mention should be made of four of these since they are regular formations. These are ` ` -zero, *-aCCee*, ` ` *ma - - V*, ` ` (`) ` *ma - - ii*.

` ` -zero is the regular formation of a deverbal noun from verb bases with stems of the tone sets `, ` 1, and ` (`) (see 4.5.1, 2, 3). The nouns thus formed are masculine and when followed by *na*, the latter takes the low tone of the pattern. E.g. *cii-* 'to eat', *jii-* 'to perceive': *jìnkì yaafi cìnkì* 'perceiving you is better than eating you' (said of a *gààwasà* tree, which smells delicious when the fruit is ripening but is not yet good to eat). *šaa-* 'to drink', *šìnà šàmbàaɾààsaa* 'he's drinking liquor'. *soo-* 'want', *mììneenèè // kanà soò?* 'what do you want?'.

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[2] The terminology here should not be confused with that of Abraham. Only Abraham's verbal noun of mutable verbs (PH 73, 74, MGSH 25) is here considered a verbal noun. The verbal noun of an unchanging verb (PH 65–67, MGSH 22) is considered a verb form, to be treated in the syntax as regards its nominal functions. Abraham clearly distinguishes the two, of course. Abraham's 'extra' or 'secondary verbal noun' (PH 138–145, MGSH 25, see also 55–58) is my deverbal noun. However, the latter also includes Abraham's 'Agent', 'Tool', 'Place' (MGSH 62–63) and the 'Past Participle' (MGSH 48).

` ` ´ -aCCee is a formation made from any verb base to indicate one upon which (or whom) the action of the verb has been taken. It is, then, equivalent to a perfective passive participle. For the feminine -aa and plural ` ´ -uu see 3.5.2. Examples: *tooy-* 'to burn', *tòòyayyee* 'a burnt up one'; *sʔay-* 'to stand', *sʔàyayyee* 'a stubborn person'. For this same suffix used with simple noun bases see 3.5.1.

´ ` (´) ´ *ma - - ii* forms agent nouns. For feminine -iyaa and plural -aa see 3.5.2. E.g. *buus-* 'to blow', *mabùùšii* 'one who blows, a flutist'; *kooy-* 'to learn, teach', *makòòyii* 'a learner, student'. This formation indicates a steady occupation in the action. For the same combination of affixes to noun stems see 3.6.2.

´ ´ *ma - - V* forms nouns of instrument from any verb base. The final vowel varies, being usually -*ii*, but also -*aa*. For plurals see 3.5.2. E.g. *ma - - ii*: *šaar-* 'to sweep', *mašaarii* 'an instrument with which to sweep'; *burk* 'to twirl', *maburkii* 'churning stick, firestick'. *ma - - aa*: *buus-* 'to blow', *mabuusaa* 'flute'; *hayf-* 'to bear (a child)', *mahayfaa* 'birthplace, uterus'.

The other deverbal nouns are made with varying degrees of regularity in relation to the verb stem. The following are examples of the combinations of tone pattern and final vowel formatives noted: (Numbers in parenthesis indicate numbers of examples recorded, when limited.)

´ ´ -*ii*: *taaf-* 'action with flat of hand or foot', *tààfii* 'palm, sole'. *moosʔ-* 'to make a rustling noise by moving about', *mòòcʔii* 'making a rustling noise by moving' (as of a snake or rat). -*ee*: *das-* 'to transplant', *dàšee* 'transplanting'. *sʔay-* 'to stand', *sʔàyee* 'being level, straight; standing'. -*uu*: *ruugut-* 'to write', *rùùgùtuu* 'writing' (later than the time of speaking, in contrast to *ruugùtàà* 'writing right away'). -*oo*: *fas-* 'to crack', *fàsoo* 'splitting', *foor-* 'to discipline', *fòòroo* 'discipline'. -*aa*: *cir-* 'to pull up by hand', *cìraa* 'pulling up by hand'. -*aw*: *sayd-* 'to sell', *sàydaw* 'one who sells'; *ʔaykat-* 'to work' (tr.), *ʔàykat-* 'to work' (tr.), *ʔàykàtaw* 'one who works something'.

´ ` -*ii*: *ʔask-* 'to shave', *ʔaskìì* 'shaving' (used with verb stem *ʔaskèè*). -*ee*: *roosʔ-* 'to crack someone's head', *roocʔèè* 'cracking a head' (1). -*uu*: *bug-* 'to beat', *bugùù* 'beating'; *daam-* 'to bother', *daamùù* 'bothering'. -*oo*: *ciiz-* 'to bite', *ciizòò* 'biting'. -*aa*: *fEkʔ-* 'to sharpen', *fiikʔàà* 'sharpening'. -*woo*: *kʔii-* 'to hate', *kʔiiwòò* 'hating' (1). -*uwa*: *z-* 'to be on one's way', *zuwà* 'coming', used with verb stem *zoo*.

´ ` ` -*aa*: *saat-* 'to steal', *saàtàà* 'stealing' (1).

´ ` ´ -*uwaa*: *faadʔ-* 'to fall', *faadʔùwaa* 'falling' (1).

` ` ´ -*ee*: *sʔugunn-* 'to squat', *sʔùgunnèè* 'act of squatting' (used with verb stem *sʔugùnnaa*). -*aa*: *kakkabʔ-* 'to beat in order to knock something off the thing beaten', *kàkkabʔàà* 'beating (as above)' (used with verb stem *kakkàbʔee*). -*iyaa*: *taf-* 'to depart', *tàfiyàà* 'act of going' (used with verb stem *tàfi*). -*uutuu*: *kʔull-* 'to knot', *kʔùlluutùù* 'a knot, lump' (1).

` ´ ´ -*aa*: *haraar-* 'to stare hard at', *hàraaraa* 'staring hard at' (1). -*uwaa*: *šaakʔ-* 'to choke', *šààkʔuwaa* 'hiccups'. -*iyaa*: *dʔoor-* 'to put a load on someone', *dʔòòriyaa* 'a load' (1).

´ ´ -*ii*: *sulbʔ-* 'to slip off', *sulbʔii* 'slipperiness'. -*ee*: *ʔamr-* 'to marry', *ʔamree* 'act of marrying'. -*aa*: This form is very common and is used with a variety

of verb stems. *cʔaag-* 'to tear', *cʔaagaa* 'tearing', (used with verb stem *cʔaagèè*);
haw- 'to mount', *hawaa* 'mounting' (used with verb stem *haw*); *gyaar-* 'to add to,
to fix', *gyaaraa* 'an added bit; fixing, cleaning' (used with verb stem *gyaaràà*).
-oo: *gooy-* 'to carry on the back' (as, e.g., a child), *gooyoo* 'carrying on the back'
(used with verb stem *gooyàà*). *-ay*: *cʔeer-* 'to endeavour to surpass', *cʔeeray*
'endeavouring to surpass' (1). *-uwaa*: *gaan-* 'to find a lost object', *gaanuwaa*
'act of finding that which was lost' (used with verb stem *gaanèè*). *-iyaa*: *goot-*
'to go to one side', *goociyaa* 'going to one side, dodging'.

3.3. Extended noun bases.   Many noun bases have extended as well as simple
forms.   A few hypothetical forms have the same type of extension and are
included.   These (e.g., **fikee*) have been abstracted from these formations and
from their extended stem forms as being the common foundation of both.
They do not constitute noun bases except in their extended form since they do
not occur as simple base forms.

3.3.1. Reduplicated bases.   These are simple bases reduplicated with loss of
tonal pattern.   A new tone pattern accompanies the reduplicated form.   Ex-
amples of complete reduplication are: *ʔayàà* 'tiger-nut', *ʔàyààʔayàà* 'a similar but
inedible plant'; *kʔibàà* 'fat', *kʔibààkʔibàà* 'a fat person'.   Reduplication after
loss of final vowel and tone pattern: *kʔayàà* 'thorn', *kʔàykʔay* 'anything which
causes itching, chaff'.

3.3.2. Prefix extensions of the base.   Of these we have two types, the mor-
pheme *bà-* and reduplicative prefixes.   *bà-* indicates 'a native of' or 'one possess-
ing the quality of'.   The former is more common.   The base suffers no loss.
(See 3.6.2 for this affix as an extension of the stem.)   E.g. *gwaarii* (tribe name),
bàgwaarii 'a Gwari'; *kanòò* (place name), *bàkanòò* 'a native of Kano'; *hagòò* 'left
hand', *bàhagòò* 'a left-handed person.'[3]

CVC- (3 mora) reduplicative prefixes.   These cause loss of tone pattern and
ending (final vowel or *-iyaa*) to the base and are accompanied by tone pattern
and final vowel.   They are:

CVC- This reduplicates the first consonant and vowel of the base and doubles
the original first consonant of the base.   The tone patterns are ′ ` with *-ee*;
′′`′′ with *-aa*.   E.g. *-ee*: **šikee*, *šiššikèè* 'a supporting timber (rafter, column)';
*fikee, *fiffikèè* 'feather'.   *-aa*: *sʔawrii* 'retarded growth', *sʔassʔawraa* 'one of
retarded growth'; *mòòriyaa* 'usefulness', *mammooraa* 'usefulness'; *gawcʔii* 'brittle-
ness', *gàggawsʔaa* 'a brittle one'; *tawrii* 'toughness', *tàttawraa* 'a tough person'.
muunìì 'ugliness', *mùmmuunaa* 'an ugly person'.   As seen by these examples,
this affix usually indicates 'a person or thing of the quality of'.   *mammooraa* is
recorded in context parallel to *mòòriyaa* but no difference of meaning was noted.[4]

CVn- This reduplicates the first consonant and vowel and adds *-n-* before the
simple base.   Examples noted: *kʔumcii* 'dense brush', *kʔunkʔumcii* 'a narrow
one or place'; **zaroo*, *zànzaroo* 'a wasp'.

CVl- This is the same as the last, but with *-l-*.   From the two examples where
the simple base is known, it seems to indicate 'one of the appearance of'.   Exam-
ples noted: **gijee* (verb base 'to shake'), *gilgijèè* 'a cloud'; **piloo*, *pilpilòò* 'butter-

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[3] Compare PH 34, 35, MGSH 61.
[4] Compare PH 43, MGSH 50.

fly'; *gaašìì* 'hair', *gàlgaasàà* 'hairy person'; *màataa* 'woman', *màlmaatàà* 'eunuch'.

3.3.3. Base extended by suffix. Only one certain example has been noted. This is a reduplication of the last syllable (CVC) of the base after loss of final vowel and tone pattern. A new tone pattern and final vowel are added with the suffix extension. *ʔàljanaa* (or *ʔàljannà*) 'Jinn', *ʔàljanjànii* 'one possessed of Jinn'.

Extended stems. Certain bases, after loss but before the addition of any affix to the stem, are extended in any one of several ways. These are automatic additions to the stem and are not morphemes (since they have no meaning). As they occur only with affixes, they are discussed in full in the treatment of the relations of stems to affixes (see 3.6).

3.4. Affixes to the stem.

3.4.1. Loss to base. All affixes cause loss to the stem. This loss is of tone pattern and ending. A tone pattern accompanies the affix to be added. The loss of ending may be any one of the following:

-zero -ay -iyaa -waa -in
-V -yaa -niyaa -uwaa -aya

To the stem after loss the tone pattern and affixes are added.

3.4.2. Groups of related affixes. The affixes are listed in full below (3.4.4), but a few related groups are noted here.

The abstract -t- group. This group have -t- in common and are all in some sense abstract formations.[5]

-taa -ntaa
-taka -ntaka -antaka -untaka
-cii -ancii -umcii

E.g. *muugùù* 'an evil person, a bad one', *mùgùntaa* 'evil'; *nagàri* 'a person of good character', *nàgàrtaa* 'goodness'; *baawàà* 'a slave', *bàwtakà* 'state of being a slave'; *cʔinkèè* 'a pointed object', *cʔìnkàntakà* 'pointedness'; *saaboo* 'a new one', *sàabùntakà* 'an element of newness'; *daadʔii* 'pleasure', *dàadʔìntakà* 'pleasantness'; *ʔàlbarkàà* 'blessing', *ʔàlbarkàcii* 'blessing'; *tuuray* 'Europe', *tuurancii* '(any) European language'; *bààkʔoo* 'stranger', *baakʔumcìì* 'a stranger's manner'. The -taka is apparently an extended form of -taa. The -cii is -t-ii. Five of the forms have a nasal (*n* or *m*). There seems to be no meaning difference between these and the others. One stem cannot have both. Possibly the base has a morphophonemic -n (compare -(n), 2.2.3).

Here also belong the stem extensions -t- and -nt- (see 3.6.5). These were set up when the form of the word was that of one with a further affix based upon a -taa or -ntaa form, but the latter was not recorded (see 3.4.4). Compare also the denominative verb formative elements -at-, -nt-, -t- (4.2.2).

The -yaa group. These have -yaa in common and form nouns of feminine gender.[6] Some have an -n- (compare the -n- above).

-yaa -iyaa -nyaa -niyaa -inyaa

E.g. *kàree* 'dog', fem. *kàryaa*; *ʔàbookii* 'friend', fem. *ʔàbookiyàà*; *baràà* 'servant',

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[5] Compare HG 63–64, PH 36, 37, MGSH 59, 60, GHL 13, 14.
[6] Compare PH 28, 29, MGSH 45, 46, GHL 19, 50, 52, LHS 8–20, 22, 23, 26, 48–50.

baranyàà 'servant girl'; *màraayàà* 'orphan', fem. *màraynìyaa*; *yaaròò* 'boy', *yaarinyàà* 'girl'.

The *-n-* group. All these are plural except *-aanii*. Arranged according to the length of the vowel before *-n-* and the length of *-n-*, they are:

-ina   *-una*
-annii *-annee* *-annuu* *-unnii* *-unna*
-aanii *-aanuu*

For examples see 3.5.1.

The *-y-* group. All these are plural, and all are rare except *-aayee*. For examples see 3.5.1.

-iyya *-ayyii* *-ayya* *-ooyii* *-aayee*

3.4.3. Relations of affixes to tone.[7] Some affixes may be accompanied by any one of a number of tone patterns, but most of them are restricted to one. Those found with several usually occur more often with one than with the others. Those noted with one pattern are:

```
  ' '   -ayyii   -aw      -uway            -akii  -akay
        -annii   -unnii   -annee   -annuu
  ' `   -ina     -una     -unna    -umcii
        -nyaa    -inyaa            -uka    -nuka
  ' ' ` -taka    -ntaka   -antaka  -untaka
  ' ` ' -ayya    -aanuu
  ` ' ' -aanii   -aCCee
  ' ` ` `-niyaa  -cii
  ' '   -ancii   -ooyii   -waa
```

For examples see 3.5. Many of those affixes which take more than one tone pattern have fixed tone patterns with extended stems (see 3.6).

3.4.4. Sequences of affixes. Affixes are of four types in relation to the stem and to each other:

1. Those attached only directly to the stem and which allow no other affix after them:

-taka   *-ntaka*   *-antaka* *-untaka* *-ancii* *-umcii*
-niyaa   *-yaa*   *-inyaa*   *-iyya*   *-ayya*   *-ooyii* *-ayyii* *-aayee*
-waa   *-uwaa*   *-uway*
-ina   *-una*   *-unna*
-annii   *-annee*   *-annuu*   *-unnii*   *-aanuu* *-aanii*
-akii   *-kuu*   *-uka*   *-nuka*   *-akay*   *-aatuu*

2. Those attached only directly to the stem but which may have another affix after them:

-taa *-ntaa* *-cii* *-nyaa* *-aw*

3. Those which may be attached after another affix and which may have another affix after them:

-aCCee *-ii* *-ee*

4. Those which may be attached after another affix but may have none following:

[7] Compare BD xxviii–xxix.

-uu   -aa   -ay   -iyaa   -aawaa

No stem may have more than one of any group at a time. Any one of these affixes may follow the stem directly, and any may be final.

Since those of group one allow no other affixes, they are mutually exclusive of groups two to four. However, a stem may have a member each from groups two to four, or it may have affixes from but two of the groups. The possibilities are:

Combinations of groups two, three, and four:

2. *-taa, -ntaa*   3. *-ii*   4. *-iyaa, -aa*

E.g. *saaʔàà* 'luck', *sààʔantàà* 'luck', *masààʔàncii* 'one who is constantly lucky', fem. *masaaʔancìyaa*, pl. *masààʔàntaa* (note that this combination only occurs with stems extended by *ma-*).

Combinations of groups two and four:

2. *-cii*   4. *-ay*;   2. *-nyaa*   4. *-uu*;   2. *-aw*   4. *-aawaa*

E.g. *ʔàlbarkàà* 'blessing', *ʔàlbarkàcii* 'blessing' pl. *ʔàlbàrkàtay*; *baràà* 'servant', *baranyàà* 'maidservant' pl. *bàrànyuu*; *jaa* 'red one', *jààtaw* 'reddish person or beast' pl. *jaataawaa*. There are the only examples noted.

Combinations of groups three and four:

3. *-aCCee*   4. *-aa, -uu*;   3. *-ii, -ee*   4. *-iyaa*

These refer to two common formations: *-aCCee* 'a person of the nature of' (see 3.5.1) and stem extension *bà-* 'a native of' (3.6.2). E.g. *hàdʔamàà* 'greed', *hàdʔàmammee* 'a greedy person' fem. *hàdʔàmammaa*, pl. *hàdʔàmàmmuu*. *tuuray* 'Europe', *bàtuurèè* 'a European' fem. *bàtuurìyaa*. *-ii* is also found with stem extension *ma-* (see above).[8]

3.5. Relation of stem formations to affixes. This may be summarily stated as follows:

I. Base as stem

  A. Noun bases

    1. Simple noun   —   any affix except *-kuu*

    2. Noun bases from verb bases

      a. Verbal   nouns   —   none noted

      b. Deverbal nouns   —   probably any (examples limited)

  B. Extended noun bases

    1. Reduplicated bases

      a. Complete reduplication   —   *-ay*

      b. With loss of final vowel   —   *-kuu*

    2. Prefix formations

      a. *ba-*   —   *-ay*

      b. CVC-   —   *-aa, -uu, -ay*

[8] These sequences would undoubtedly be changed in part and enlarged by further research (compare LHS 19, 20, where examples of further affixes, plurals of, *-taka* are given).

Previous discussions of affixes have been organized according to meaning—abstract, feminine, plural, etc. References have been given for abstract and feminine formations. For plurals see GHL 20–44, 50, 52 and for plurals of deverbal nouns 37, 38 (a large collection of formatives, unfortunately without tone or vowel length), HG 60–63, MGSH 39–41, BD xxviii–xxix (tone), LHS 8–20, 22, 23, 26, 48–50, WHS xviii–xx. For a suffix *-di* to numerals see GHL 64.

3. Suffix formation -CVC   —   *-aa, -uu, -ay*

II. Extended stems

  A. Reduplication with replacement *-aa*

  B. Prefix formations

    1. *ba-*   —   *-ii, -ee*

    2. *ma-*   —   *-ii*

    3. CVC-   —   *-aayee*

  C. Infix formations

    1. Reduplication   —   *-ay*

    2. Replacement vowels   —   *-ii, -ee, -uu, -aa, -ay, -kuu*

  D. Suffix formations

    1. *-t-*   —   *-aw, -ii*

      -nt-   —   *-ii*

    2. *-C-*   —   *-aa, -ii, -ee, -uu, -ay, -uwaa*

    3. Reduplication   —   *-ii, -ee, -uu, -aa, -ay, -uwaa, -uka*

Although some affixes are regularly accompanied by certain tone patterns, as was stated above (3.4.3), no blanket statement can be made. Still less can any statement be made as regards the loss suffered by the base before the addition of any affix. The following list endeavours to give as complete a picture of the possible combinations as records permit. It is arranged according to the above table of bases and extended stems, listing what affixes may accompany each. The tone pattern of the new formation is given, followed by the loss of ending suffered by the base. Where less than five examples were noted, all are given and their number indicated to the right of the loss to the base.

3.5.1. Simple noun—possible affixes:

-taka ` ` `, -V.   *baawàà* 'slave', *bàwtakà* 'state of being a slave'; *gàjeeree* 'a short one', *gàjàṛtakà* 'shortness'.

-ntaka ` ` `, -zero.   *yawà* 'plenty', *yàwàntakà* 'plentifulness'; *baràà* 'servant', *bàràntakà* 'servitude'.

-antaka ` ` `, -V.   *c²ìinii* 'a point', *c²ìinàntakà* 'pointedness'; *bak²ii* 'a black one', *bàk²àntakà* 'state of blackness'.

-untaka ` ` `, -V (2).   *saaboo* 'a new one', *sààbùntakà* 'an element of newness'; *s²aawoo* 'length', *s²ààwùntakà* 'length'.

-ancii ` `, -ay (1).   *tuuray* 'Europe', *tuurancii* 'a European language'. ` `, -V. *gwaarii* (tribe name), *gwaarancii* 'the language of the Gwari'.

-umcii ` `, -V (1).   *bààk²oo* 'stranger', *baak²umcìi* 'a stranger's manner'.

-niyaa ` ` ` `, -V (1), -zero (1).   *màraayàà* 'orphan', fem. *màraynìyaa*; *mùtum* 'person', fem. *mùtumnìyaa*.   Compare also *sàrawnìyaa* 'queen', *sàrawtàà* 'government' (see 2.3.2).

-iyya ` ` ` and ` ` `, -V (1).   *dawòò* 'lump of dough (fura)', pl. *dàwiyyà* and *dawìyya*.

-ayya ` ` `, -V (1).   *dawòò* 'lump of dough', pl. *dawàyya*.

-ooyii ` `, -V (1).   *kààmaa* 'a roast', pl. *kaamooyii*.

-ayyii ` `, -V (2).   *zoobèè* 'ring', pl. *zoobayyii*; *tùùree* 'island formed by river', pl. *tuurayyii*.

-aayee ` ` `, -V, -ay.   This is a common affix and always has this tone pattern

if loss is -V or -ay. With -uwaa loss an example with ' ' pattern was noted. sˀunsˀuu 'bird', pl. sˀunsˀààyee; bˀawree 'fig tree', pl. bˀawràdyee; ˀuwaa 'mother', pl. ˀuwààyee; ˀamay 'vomiting', pl. ˀamààyee (-ay loss). With ' ' -uwaa (1): tùrbˀuwaa 'dry, dusty earth', pl. tùrbˀààyee.

-yaa ' ', -V (1). kàree 'dog', fem. kàryaa.

-inyaa ' ', -V (1). yaaròò 'boy', yaarinyàà 'girl'.

-waa ' ', -V (1). kuturuu 'leper', fem. kuturwaa. Although this is the only example noted, others (probably with varying tones) will undoubtedly be found in this dialect. The same may be said of -yaa (and others).

-uwaa ' ' ', -V. bààkˀoo 'stranger', fem. bààkˀuwaa; tùnkuu 'a wild feline', fem. tùnkuwaa. ' ' ', -V. kˀanèè 'younger brother', kˀanùwàà 'younger sister'. ' ', -V. sˀoofoo 'an old one', fem. sˀoofuwaa; gwamroo 'widower', gwamruwaa 'widow, formerly married but now husbandless woman'. ' ', -V (2). hannuu 'hand', pl. hannuwàà; kunnèè 'ear', pl. kunnuwàà.

-uway ' ', -iyaa (1). taasunnìyaa 'story', pl. tààsùnnùway.

-ina ' ', -V, -yaa (1). A not infrequent suffix, always with this tone pattern. dangì 'relative', pl. danginà; fùùlaa 'hat', pl. fuulinà; gamjìì 'gutta percha tree', gamjinà; kˀwaryaa 'a large calabash', pl. kˀoorinà (-yaa loss).

-una ' ', -V. A more frequent suffix than -ina, always with ' ' tone. kˀàfoo 'horn', pl. kˀafunà; tafkìì 'pond', pl. tafkunà; jìkkaa 'bag', pl. jikkunà.

-unna ' ', -V (3). A much rarer suffix but patterning like the last two: cikìì 'stomach, insides', pl. cikunnà; bàkaa 'bow (weapon)', pl. bakunnà; kwabòò 'English penny (copper)', pl. kwabunnà.

-annii ' ', -V, -ay; fairly frequent. kùbee 'sheathe', kùbànnii; maataa 'woman', pl. mààtànnii; kùùfuu 'lungs', pl. kùùfànnii; kˀòòsay 'bean cake fried in peanut oil', pl. kˀòòsànnii.

-annee ' ', -V (2). tùùsˀuu 'a kind of drum', pl. tùùsˀànnee; kààkaa 'grandparent', pl. kààkànnee.

-annuu ' ', -V (2). kùgee 'a metal percussion instrument', pl. kùgànnuu; jìdaa 'cloud', pl. jìdànnuu.

-unnii ' ', -uwaa (1). kààsuwaa 'market', pl. kààsùnnii.

-aanuu ' ' ', -V (1). ˀidòò 'eye', pl. ˀidàànuu.

-aanii ' ' ', -V (1). sˀakà 'middle', sˀàkaanii 'one in between'.

-akii ' ', -V (2). kwaanaa 'day', pl. kwàànàkii; goonaa 'farm', pl. gòònàkii.

-uka ' ', -V (4). ràdfii 'stream', pl. raafukà; dàrnii 'cane fence', pl. darnukà; kwaanòò 'galvanized iron', pl. kwaanukà; tawraa 'a fruit tree', pl. tawrukà.

-nuka ' ', -V (1). kàree 'dog', pl. karnukà.

-akay ' ', -V (2). goonaa 'farm', pl. gòònàkay; galla 'a species of fly', pl. gàllàkay'.

-aatuu ' ', -V (1). leebˀèè 'cock's wattles', pl. lèèbˀààtuu. ' ' ', -V (1). cˀibìì 'a pile', pl. cˀibààtuu.

-taa ' ' -zero (1), -V. kyaù 'beauty', kyàwtaa 'a present'; gàjeeree 'a short one', gàjàṛtaa 'shortness'; ˀamìnìì 'pal', ˀamìntaa 'trust'; baawàà 'slave', bàwtaa 'slavery' (BD). ' ' ', -V (1), -zero (2). kˀàzaamii 'a nasty one', kˀàzamtàà (-tà?) 'nastiness'; sàttin 'sixty', sàttintàà 'the sixtieth' (i.e. the sixtieth chapter of the Koran); sarkii 'king', sàrawtàà 'governing' (zero loss as sarkii is replaced by

saraw-, see 2.3.2; compare *sàrawnìyaa* 'queen'). ' `, -V (1). *kuturuu* 'leper', *kutuṛtàà* 'leprosy'.

-ntaa ` `, -zero. *yààyii* 'a passing fashion, fad', *yààyìntaa* 'transcience'; *saa-ʔàà* 'luck', *sààʔàntaa* 'luck'.

-cii ` ` `, -zero (1). *mùtum* 'person', *mùtuncìì* 'respect'. ` ` ` `, – one vowel mora (-zero?). *ʔàlbarkàà* 'blessing', *ʔàlbarkàcii* 'blessing'.

-nyaa ` `, -zero. *baràà* 'servant', *baranyàà* 'maidservant'; *muugùù* 'an evil one', fem. *mugunyàà*; *jìikàà* 'grandchild', fem. *jìikanyàà*.

-aw ` `, -V (1). *màganà* 'talk', *màgánaw* 'a talker'.

-aCCee ` ` `, -V. This suffix indicates a person partaking of the nature described by the base. It always has this tone pattern. (See 3.2.3 for the same suffix with verb base.) *bʔànnaa* 'ruining', *bʔànnannee* 'a ruined person'; *hàdʔamàà* 'greed', *hàdʔamammee* 'greedy person'; *dànganàà* 'resignation to God', *dàngà-nannee* 'one resigned to God'. For feminine *-aa* and plural *-uu* see 3.4.4. One example of *-aa* was found with no corresponding *-ee*. As this could be considered a feminine, no separate *-aCCaa* was set up: *saafiyà* 'morning', *sààfìyayyaa* 'morning'.

-ii ` `, -zero (4). *làadan* 'muezzin', pl. *làadànii*; *tàwsay* 'pity' (BD), pl. *tàwsàyii*; *ràyray* 'sand', pl. *ràyràyii*; *ʔàlkùṛʔan* 'Koran', pl. *ʔàlkùṛʔàànii*. ` `, -V. *cìyaawà* 'hay', pl. *cìyààyii*; *màkaafòò* 'blind person', pl. *màkààfii*; *kwàdʔoo* 'frog', pl. *kwàdʔii*. ` `, -uwaa (?, 1). *tàmraarùwàà* 'star', pl. *tàmràarii* (the masculine form *tàmraaroo* was not recorded). ` `, -V (1). *baawàà* 'slave', pl. *baayii*.

-ee ` `, -zero (2). *walìi* 'prophet', pl. *walìyee*; *lìiman* 'Imam' (BD), pl. *lìi-màamee* (see 2.2.7).

-uu ` `, -V. *ʔàsaarà* 'loss', pl. *ʔàsààruu*; *ʔàwazzà* 'rib', pl. *ʔàwàzzuu*; *cʔìngaaròò* 'potsherd', pl. *cʔìngààruu*. ` `, -iyaa (3). *kaṛtaajìyaa* 'the integument of a corn-stalk' (BD), pl. *kàṛtààzuu*; *makallacìyaa* 'a thin strip of the integument of a corn-stalk' (BD), pl. *màkàllàtuu*; *zangaṛnìyaa* 'ear of grain', pl. *zàngàṛnuu*. ` `, -V (4). *yaasʔàà* 'finger', pl. *yaasʔuu*; *maayèè* 'wizard', pl. *maayuu*; *dʔanyee* 'a fresh one', pl. *dʔanyuu*; *gaašìì* 'hair', pl. *gaasuu*; *kaỳ* 'head', pl. *kaanuu* also belongs here, but no regular loss (except -zero) can be stated, since a morpheme alternant is used.

-aa ` ` `, -V (1). *dààmišìì* 'leopard', fem. *dààmisàà*. ` ` `, -V. *kʔàramii* 'a small one', fem. *kʔàramaa*; *màrakʔii* 'bull calf', *màrakʔaa* 'female calf'; *dùkušii* 'colt', fem. *dùkusaa*. ` ` ` `, -V. *ʔàlfadarii* 'hinny', fem. *ʔàlfadaraa*. ` ` `, -V. *kaafàṛìì* 'pagan', fem. *kaafàṛàà*. *làntìrkì* 'electric light', pl. *lantìrkàà*. ` `, -V (2). *zùngùṛuu* 'a long calabash', pl. *zunguṛàà*; *tààkàlmii* 'sandal', pl. *taakalmàà*. ` ` `, -V (1). *hakʔoorii* 'tooth', pl. *hakʔòòraa*. ` `, -V (2). *bakʔii* 'a black one', fem. *bakʔaa*; *màataa* 'woman', pl. *maataa*.

-ay—very common; usually with ` ` tone pattern. ` `, -zero (2). *šàrif* 'one who claims descent from Mohammed' (BD), pl. *šàrìifay*; *tàrbuš* 'a fez', pl. *tàrbùsay*. ` `, -V. *kyànkyàsoo* 'roach', pl. *kyànkyàsay*; *budurwaa* 'young woman', pl. *bùdùrway*; *ʔabààwaa* 'yarn', pl. *ʔabààway*. ` `, -iyaa (3). *tufaanìyaa* 'door', pl. *tùfàànay*; *ʔàṛafìyàà* 'fine thread', pl. *ʔàṛàhay*; *ʔàkòòtiyaa* 'revolver', pl. *ʔàkòòtay*. ` `, -waa (1), -uwaa (2). *càkwaykwaywàà* 'a starling' (BD), *càkwàyk-wàyay*; *kuṛkunnuwàà* 'soot', pl. *kùṛkùnnay*; *tùrgunnuwaa* 'an edible herb', pl.

tùrgùnnay. ' ' ', -V (1). *masookii* 'pin', pl. *masòòkay.* ' ', -V (1) *kuusùù* 'rat', pl. *kuusay.*

-iyaa ' ' ' ', -V. *jàariirìì* 'baby', fem. *jàariirìyaa.* ' ' ', -V. *ʔàbookii* 'friend', fem. *ʔàbookiyàà* (also *ʔàbiyàà*). ' ', -V. *maykìì* 'Ruppell's griffon' (BD sub *miki*), fem *maykìyaa; maayèè* 'wizard', fem. *maayìyaa.*

-aawaa ' ', -V, -ay (1). *fòòtoo* 'picture', pl. *fòòtààwaa; gwaarii* (tribe name), *gwààràawaa* 'Gwaari tribesmen' (sg. *bàgwaarii*); *hawsa* 'Hausa', *hàwsààwaa* 'Hausas'; *tuuray* 'Europe', *tùùràawaa* 'Europeans' (sg. *bàtuurèè*). ' ', -V. *bawcii* (place name), *bawtaawaa* 'people of Bauchi'; *tallàkàà* 'subject, tax-payer', pl. *tallakaawaa; kazganyàà* 'female lamb', pl. *kazganyaawaa.* As seen by these examples, *-aawaa* is added to many bases which may have the stem extension *bà-* with *-ii, -ee* suffixes. The latter forms are singular, the corresponding plural being formed from the simple base by the suffix *-aawaa.* (See 3.6.2 for *bà - - ii/ -ee.*)

3.5.2. Deverbal nouns. Of the deverbal nouns, those formed with ' ' -zero never have any affixes. Any other apparently could, though few have been noted apart from the regular formations ' ' *ma - - V,* ' ' ' *ma - - ii,* and *-aCCee.* Several certain examples may be given: *moosʔ-* 'make a noise moving about', *mòòcʔii* 'noise of moving about' pl. *mòòsʔaa; sʔòòsʔ-* 'to suck, kiss', *sʔòòsʔoo* 'a kiss' pl. *sʔòòsʔànnii; taf-* 'to depart', *tàfiyàà* 'going', *tàfìyaw* 'one who goes'; *gaj-* 'to be tired', *gàjiyàà* 'the being tired', *gàjìyayyee* 'one completely tired out'; *raam-* 'to suffer loss to one's body, become thin', *raamìì* 'hole', pl. *raamunà.* With extended stem: *taaf-* 'to perform action with flat of hand or foot', *tààfii* 'palm, sole', pl. *tààfàffii.*

Of the regular formations ' ' *ma - - V* may have several affixes. Those noted are: *-ee šaar-* 'to sweep', *mašaarii* 'sweeping instrument', pl. *mašààree.* *-aa dabʔ-* 'to pound', *madabʔii* 'beating stick', pl. *màdubbʔàà* (with extended stem; see 3.6.5.). *-ay buudʔ-* 'to open', *mabuudʔii* 'key', pl. *màbùùdʔay.* The plural in *-ay* is the most common.

' ' (') ' *ma - - ii* may have *-iyaa, -aa, -ay* (rare). With *-aa* the tone pattern remains the same; with *-iyaa* it is ' ' ' ' (variant ' ' '); *-ay* has ' '. E.g. *ʔaykat-* 'to work' (tr.), *maʔàykàcii* 'worker', fem. *maʔaykacìyàà*, pl. *maʔàykàtaa; kadʔ-* 'to beat', *makàdʔii* 'beater', fem. *makadʔìyàà; sassakʔ-* 'to chip', *masàssàkʔii* 'carpenter', pl. *màsàssàkʔay.*

The *-aCCee* formation has ' ' ' *-aa* for feminine and ' ' *-uu* for plural (as when added to noun base, 3.5.1). E.g. *tuubʔ-* 'to remove, depose', *tùùbʔabbʔee* 'one removed or deposed', fem. *tùùbʔabbʔaa*, pl. *tùùbʔabbʔuu.*

3.5.3. Extended noun bases—possible affixes. The completely reduplicated base with change of tone may take ' ' *-ay: ʔàyààʔayàà* 'a plant like tiger-nut', pl. *ʔàyààʔàyay; kʔìbààkʔìbàà* 'fat person', pl. *kʔìbààkʔìbay.* The example of reduplication after loss of final vowel and tone pattern takes *-kuu* with replacement vowel *-aaC¹-* (see 3.6.4): *kʔàykʔay* 'chaff', pl. *kʔàykʔàykuu* (note that here *-a-* replaces *-a-*).

The *bà-* extension of the base may take *-ay.* Two examples have been noted, one with extended stem (affix -C-, 3.6.5). The tone pattern is ' '; loss is -V:

hagòò 'left hand', *bàhagòò* 'left handed person' pl. *bàhàgay*; *jinii* 'blood', *bàjinii* 'bull' pl. *bàjìnnay*.

Prefix reduplicated bases may have ` ' -uu, ` ' -ay*: *muunìì* 'ugliness', *mùmmuunaa* 'ugly person' pl. *mùmmùùnay*; *tawrii* 'toughness', *tàttawraa* 'tough person' pl. *tàttàwruu*; *gaašì* 'hair', *gàlgaasàà* 'hairy person' pl. *gàlgààsay*; *màataa* 'woman', *màlmaatàà* 'eunuch' pl. *màlmààtay*. Prefix forms with hypothetical bases do not take further affixes; all other forms from such a base are formed directly upon it.

The one example of the suffix formation has three affixes: *ʔàljanjànii* 'one possessed of Jinn', fem. *ʔàljanjànaa*, pls. *ʔàljànjànuu*, *ʔàljànjànay*.

3.6. **Extended stems.** Certain stems, after loss but before the addition of any affix to the stem, add to the base any one (and in a few cases two; see below) of a number of elements. Each resulting form has its possible affixes, but the total number of these affixes is very limited. They are:

-ii -ee -uu -aa -ay -aw -uwaa -aawaa -kuu -uka

For possible affixes to bases thus formed see 3.4.4 and below.

3.6.1. **Reduplication with replacement -aa-.** This form reduplicates hypothetical sub-bases, replacing the last vowel of the reduplicated element by -aa-. It is always accompanied by ` ' -ay*. Loss is -V. E.g. **fikee* fìffìkèè* 'wing' pl. *fìkààfìkay*; **šikee* šìššìkèè* 'beam' pl. *šìkààšìkay*; **gijee* gìlgìjèè* 'cloud' pl. *gìzààgìzay*; **piloo* pìlpìlòò* 'butterfly' pl. *pìlààpìlay*; **kwiy* kwìikwìyòò* 'puppy' pl. *kwìyààkwìyay*.

3.6.2. **Prefix formations, bà-, ma-.** The prefix *bà-* extends stems which may then have either *-ii* or *-ee* as suffix. The tone patterns vary. This formation may have the suffix *-iyaa* (3.4.4). The combinations of final vowel and tone pattern noted are:

-ii ` ', -V. *dàwraa* (place name), *bàdàwrii* 'native of *Dawra*'; *zànfàraa* (place name), *bàzànfàrii* 'native of *Zanfara*'.

-ee ` ' ', -V. *bawcii* (place name), *bàbawcèè* 'native of *Bauchi*'. *tuuray* 'Europe', *bàtuurèè* 'a European, any white man'. ` " ', -V. *gabàs* 'East', *bàgabašèè* 'Easterner'; *sakwatòò* (place name), *bàsakwacèè* 'native of *Sokoto*'. One example with stem extension *-t-* (3.6.5) was recorded: *ʔarèèwaa* 'North' *bàʔarèèwacèè* 'Northerner'.

Stems extended by *ma-* take ` ' (`) '-ii*. The meaning is the same as when applied to verb bases, i.e. it indicates 'one who is constantly employed at' (the base form). E.g. *waakʔàà* 'singing', *mawààkʔii* 'singer'; *fàrawtàà* 'a hunt', *mafàràwcii* 'hunter'. For this affix with stem extended in *-t-*, *-nt-* see 3.6.5.

3.6.3. **Prefix CVC-.** One example of the prefix CVC- (cf. 3.3.2) used as stem extension was noted. It takes ` ' -aayee*, -V loss: *jaa* 'red one' pl. *jajjààyee*.

3.6.4. **Infix formations.**

One infix reduplication, $-C^2C^2V-$, was noted. It reduplicates the second consonant of the stem, doubled, with the vowel following it. It has ` ' -ay*: *kazagii* 'a type of drum', pl. *kàzàzzàgay*.

Replacement vowels. A fairly common stem formation is the replacement by a vowel (*-aa* or *-u-*) of the sequential element (-zero- [close juncture] or -V-)

between the last two consonants of a base after loss. With *-u-* the stem may also be extended by *-C-*, so that three patterns are possible: *-uC¹-*, *-uC¹C¹-*, *-aaC¹-*. Possible affixes:

-uC¹- -aa   *-uC¹C¹- -aa*
-aaC¹- -ii -ee -uu -ay -kuu

E.g. *-uC¹-* ' `, -V (3). *gàatarii* 'axe' pl. *gaaturàà*; *tambàrii* 'a type of drum' pl. *tamburàà*; *màsassabii* 'a harvesting implement' (BD sub *magirbi*) pl. *masussubàà*.

-uC¹C¹- ' `, -V. *hankàlii* 'sense, caution' pl. *hankullàà*; *rawànii* 'turban' pl. *rawunnàà*; *takòòbii* 'sword' pl. *takubbàà*.

-aaC¹- -ii ' ` ', -V (1). *gùrmii* 'an instrument like a banjo' pl. *guràamii*. ' ', -V (1), *-iyaa* (2). *dookìì* 'horse' pl. *daawaakii*; *tunkìyaa* 'ewe' pl. *tuumaakii*; *ʔàkwiyàà* 'female goat' pl. *ʔaawaakii*. *-ee* ' ` ', -V, *-yaa* (3), *-waa* (3). This is the most common of the infix formations and always has ' ` ' tone pattern: *giširii* 'salt' pl. *gišààree*; *kuturuu* 'leper' pl. *kutààree*. *ʔamaryaa* 'bride' pl. *ʔamààree*; *tukunyàà* 'calabash pot' pl. *tukàànee*; *tabʔaryaa* 'pestle' pl. *tabʔààree*. *dakʔwalwaa* 'a laying hen' (BD) pl. *dakʔwààlee*; *kurmwaa* 'deaf man' pl. *kurààmee*. *-uu* ' ` ', -V. *duucʔìì* 'rock' pl. *duwààsʔuu*; *dʔuuyèè* 'buttock' pl. *dʔuuwààwuu*; *murfùù* 'cooking place, oven' pl. *murààfuu*. *-ay* ' ` ', -V (1). *giširii* 'salt' pl. *gišààray*. *-kuu* ` ', -V (3 plus example in 3.5.3). *raariyaa* 'strainer, path' pl. *rààràykuu*; *sʔaamiyaa* 'the tamarind tree' (BD) pl. *sʔààmàykuu*; *gaskeeyaa* 'truth' pl. *gàskàykuu*.

3.6.5. Suffix formations.

-t-. One stem extended in *-t-* is found with the suffix *-aw*: *jaa* 'red one', *jààtaw* 'a reddish person or thing'. Its (*-t-*'s) most frequent use is with *-ii* on a stem extended in *ma-* (3.6.2). The loss to the base is zero or one vowel mora (i.e. the final vowel of the base is shortened, if long, before the addition of *-t-*. E.g. *hàwkaa* 'madness' *mahàwkacii* 'crazy person'; *yunwàà* 'hunger' *mayùnwàcii* 'hungry person'; *kʔaryaa* 'lie' *makʔàryàcii* 'liar'. One example was noted with stem extension *bà-* and affix *-ee*: *ʔarèèwaa* 'North' *bàʔarèèwacèè* 'Northerner'.

Stem extension *-nt-* is also found with *-ii* and prefix *ma-*: *saàtàà* 'stealing' (deverbal noun) *masààtàncii*.

Stem extension *-C-* added to a base after loss doubles the final consonant of the base. It occurs with simple bases, with stems having replacement vowel *-u-* (3.6.4), once with stem with prefix *bà-* (3.6.2). It is found before *-ii, -ee, -uu, -aa, -ay, -uwaa*. E.g. *-ii* ` ', -V (1) *zààboo* 'guinea chicken' pl. *zàbbii*. *-ee* ' ', -V (1) *kʔanèè* 'younger brother' pl. *kʔannee*. *-uu* ` ', -V (1) *sʔananii* 'oppression' pl. *sʔànànnuu*. *-aa* ' `, -V (2) *kʔaatòò* 'big tough man' pl. *kʔattàà*; *rààkʔumii* 'camel' *raakʔummàà*. *-ay* ` ', -V *ʔàmiinìì* 'pal' pl. *ʔàmìnnay*; *ʔìbìliišìì* 'demon' pl. *ʔìbìlissay*; *ʔàniinìì* 'coin worth a tenth of an English penny' pl. *ʔànìnnay*. *-uwaa* ' `, -V (1) *zanì* 'a type of woman's garment' pl. *zannuwàà*.

Reduplicative suffixes. These consist of the addition of three moras (one mora = a single consonant or vowel) to the base, the last consonant mora being identical with the last consonant of the base (with regular phonologic changes). Two (*-C²VC-*, *-VC²C-*) are reduplications of the last three moras of the base. The others are:

-VCC- -aCC- -uCC-

-VVC- -aaC- -ooC- -eeC- -uuC-
-VyV- -ayC-

The possible suffixes and their occurrence with stems thus extended are:

-ii -aCC- -aaC- -ooC- -eeC- -C²VC-
-ee -aCC- -aaC-   -eeC-
-uu -aCC- -aaC-   -C²VC- -V¹C²C-
-aa, -uka   -uCC-
-ay -aCC- -ayC- -uuC-   -V¹C²C-
-uwaa   -aaC- -uuC-

Examples, listed according to stem extension, are:

-aCC-. *-ii* ` ', -V *gàágee* 'torch' pl. *gàágàggii; tòòṛoo* 'bull'; pl. *tòòṛàṛṛii; toofaa* 'a tough grass' pl. *tòòfàffii.* *-ee* ` ', -V (1), ' ', -V (1) *kabàà* 'a little palm tree' pl. *kàbàbbee; giyàà* 'a kind of tree' pl. *giyàyyee.* *-uu* ` ', -V *-iyaa* (1). This is a fairly frequent formation. Compare the plural of forms with the suffix *-aCCee* (3.4.4 and 3.5.2). *zàree* 'thread pl. *zàràrruu; toozoo* 'hump' pl. *tòòzàzzuu; habʔàà* 'chin' pl. *hàbʔàbbʔuu; ceedʔiyaa* 'fig tree' pl. *cèèdʔàddʔuu.* *-ay* ` ', -V (2) *madaṛaa* 'fresh milk' pl. *màdàṛàṛṛay; gabʔàà* 'member of the body' pl. *gàbʔàbbʔay.* ' ', -V (1) *sullee* 'top of a corn-stalk' pl. *sullàllay.*

-aaC-. *-ii* ` ', -V (1) *sʔoofoo* 'an old one' pl. *sʔòòfààfii.* *-ee* ' ` ', -V. A common plural formation always with ' ` ' tone. *birìì* 'monkey' pl. *birààree; dunyaa* 'goose' pl. *dunyààyee; gaawaa* 'dead body' pl. *gaawààyee.* *-uu* ` ', -V (1), ' ', -V (1), ' ` ', -V (1) *bààree* 'foreigner' pl. *bààṛààruu; beeṛàà* 'a young girl' pl. *beeṛaaruu; miyà* 'soup' pl. *miyààyuu.* *-uwaa* ' ', -V (3) *kʔayàà* 'thorn' pl. *kʔayaayuwàà; kʔafàà* 'foot' pl. *kʔafaafuwàà; kabàà* 'a little palm tree' pl. *kabaabuwàà.*

-ayC- only with *-ay* ' ` ', -V or *-iyaa.* *kʔafàà* 'foot' pl. *kʔafàyfay; daadʔii* 'pleasure' pl. *daadʔàydʔay; tuujèè* 'a type of bustard' (see BD s.v.) pl. *tuuzàyzay; bušiyaa* 'hedgehog' pl. *busàysay.*

-ooC- only with *-ii* ' '. This is a very common formation, always with this tone pattern. Loss to the base may be -V, *-ay, -iyaa, -uwaa, -in, -ayaa,* or -zero. -V *sʔabgàà* 'switch' pl. *sʔabgoogii; ʔàfoo* 'garlic' pl. *ʔafoofii.* *-ay* (2—see below under the numerals) *sʔàwsʔay* 'disaster' pl. *sʔawsʔoocʔii.* *-iyaa sʔarkìyàà* 'thong on a drum' pl. *sʔarkookii; muujìyàà* 'owl' pl. *muujoojii.* *-uwaa ṛakuwaa* 'a type of insect' pl. *ṛakookii.*

The names of the numerals may have this formation, and they illustrate the other possible losses to the base. They are given in full (from 'two'; the plural of 'one' was only gotten in the word for 'eleven'), though the word for 'five' has only the suffix *-ii. biyuu* 'two' pl. *biyooyii.* *ʔukù* 'three' pl. *ʔukookii; fudʔuu* 'four' pl. *fudʔoodʔii; bìyal* 'five' pl. *biyoolii; šiddà* 'six' pl. *šiddoodii; bakwày* 'seven' pl. *bakookii; takwàs* 'eight' pl. *takwasoo, šii; taṛà* 'nine' pl. *taṛoorii; goomà* 'ten' pl. *goomoomii; šaàdʔayaa* 'eleven' pl. *šaàdʔoodʔii; ʔàšìrin* 'twenty' pl. *ʔašiṛoorii; tàlààtin* 'thirty' pl. *talaatinoonii; ʔàṛbàʔin* 'forty' pl. *ʔaṛbaʔinoonii; hàmsin* 'fifty' pl. *hamsoosii; sàttin* 'sixty' pl. *sattinoonii; sàbàʔin* 'seventy' pl. *sabaʔoo, ii; tàmàànin* 'eighty' pl. *tamanoonii; gòòmiyattaṛà* pl. *gòòmiyattaṛoorii; dʔàrii* 'one hundred' pl. *dʔaroorii.* This list illustrates very well the inconsistency of the loss suffered by similar bases. 'ninety' is a combination of noun-*na*-noun;

only the second noun, *taɽà*, is affected by the formation.   This is true of 'eleven' also, where *šaà* is an element forming the numbers from eleven to nineteen.

-*uuC*-.   -*uwaa* ‘ ’ ’ `, -V (1), ‘ ’ ’ ’, -*waa* (1) *kwarì* 'ravine' pl. *kwàruuruwàà*; *turwaa* 'a type of ant' pl. *tùruuruwaa*.

-*uCC*-.   -*aa* ’ `, -V (3).   -*uka* ’ `, -V (1).   *gàrii* 'country' pl. *garurràà* or *garurrukà*; *kᵉàšii* 'bone' pl. *kᵉasussàà*; *dàfoo* 'a cook' pl. *dafuffàà*.

-*eeC*-.   -*ii* ’ ` ’, -V (1) *ganyee* 'leaf' pl. *ganyèèyii*.   -*ee* ’ ` ’, -V (3) *waakèè* 'beans' pl. *waakèèkee*; *fagèè* 'any cleared open space' (BD) *fagèègee*; *fùree* 'blossom' pl. *furèèree*.

-*C²VC*-.   -*ii* ’ ` ` ’, -*yaa* (1) *magaryaa* 'Jujube tree' (BD) pl. *magàrgàrii*. -*uu* ’ `, -V (1) *màganà* 'talk, speech' pl. *màgàngànuu*.

-*V¹C²C*-.   -*uu* ` ’, -V (1) *tàfšee* 'squash soup' pl. *tàfsàfšee*.   -*ay* ’ `, -V (1) *gyaftòò* 'skirt' pl. *gyaftàftay*.

CHAPTER IV

MORPHOLOGY OF THE VERB

4.1. Levels of formation.   The verb, like the noun, has two levels of formation, base (simple or extended) and stem.

4.1.1. Base.
  A. Simple verb bases
    1. Verb roots
    2. Verb bases from nouns by affixes (-t-, -nt-, -at-)
  B. Extended verb bases
    1. Reduplicative prefixes (3 moras)
    2. Suffixes.
      a. Reduplicative
      b. -iy-
      c. -any-
      d. -s-
      e. -D-

4.1.2. Stem.   The verb stem is formed by the addition of a tone set and suffix to the base.   The tone sets are:

    ′   ′ (′)   ′ ′   ′ ′   ′ ′ ′   ′ ′ ′   ′ ′ ′
    ′ 1   ′ ‿ ′   ′ ′   ′ ′ ′   ′ ′ ′   ′ ′ ′ ′   ′ ′ ′ ′

The suffixes are: -zero, -ee/-i, -ee, -i, -u, -oo, -aa.

4.2. Verb bases.

4.2.1. Simple verb bases.   Of these verb roots form by far the largest number. Examples are: yii- 'to do, make', cii- 'to eat', saa- 'to put', cee- 'to say', ʔayk- 'to send', kar- 'to break', laas- 'to lick', tambay- 'to ask'.   The meanings given with bases are derived from their use in stems.   An attempt is made to give the underlying meaning if the stems have radically different senses.   When this is not possible, several meanings are given.

4.2.2. Denominative verbs.[1]   These are formed from noun bases by loss of tone pattern and ending and the addition of -t-, -nt-, or -at-.   The ending loss to the noun base may be -zero or -V.   For example:

-t- gaafaràà 'forgiveness', gaafaṛt- 'to forgive' kàgààfàṛceenì 'forgive me!'; gyaaraa 'remodelling, repairing' (deverbal noun), gyaṛt- 'to repair something broken' yaagyaṛtààšì 'he repaired it'.

-nt-, -zero loss to base: ʔyaa 'freeborn children', ʔyant- 'to free' yaðʔyantààši 'he is going to free him'; šeegèè 'bastard', šeegant- 'to speak evilly of' yaašeegàntaaši 'he spoke evilly of him', šèègàntaccee 'one evilly spoken of'.

-at-, -V loss to base: ʔaykìì 'work', ʔaykat- 'to work' (trans.) maʔàykàcii 'one who works something', naaʔaykàtààšì 'I worked it'.   bʔànnaa 'ruining' (especially of a farm), bʔannat- 'to ruin' yaabʔannàceeši 'he ruined it'.

One formation with the addition of -n- after loss of final vowel and tone pattern

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[1] Compare PH 89,90.   On verb formatives in general see also LHS 55, 56, GHL 101–116 (very poor), WHS xxi–xxiii.

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was noted: *ʔawòò* 'purchasing for household needs', *ʔawn-* 'to measure, weigh' *kàʔawndà manì kʔwaryaa* 'measure me a k?. of cloth'.

4.2.3. Extended verb bases.

The reduplicative prefixes are identical with those used with the noun (see 3.3.2; no CVC^2- is there quoted, but it undoubtedly exists). These are CVC-, CVC^2-, CVn-, CVl-. With the verb, however, the CVC- prefix allows only a short vowel in the base following. One example each have been found of the other three with verb bases.

CVC- This usually gives a continuous intensive aspect to the base. Suffixes and tone sets noted are: ` ` ` -ee, ´ ` ` -ee, ´ ´ ´ -oo. E.g. *cʔaag-* 'to tear', *cʔaccʔag-* 'to tear tear continuously or violently' *kààzaa taacʔàccʔàgeenì* 'the chicken pecked me', *yaacʔaccʔàgeeší* 'he tore him to pieces'; *taar-* 'to come together', *tattar-* 'come together (continuously)' *kùtattaroo mùsùlmii* 'come meet together (for worship), Muslims!' For this prefix on a stem extended by *-iy-* see below.

CVC^2- ´ ` ´ -ee. *kar-* 'to break', *karkar-* 'to scrape' *yaakarkàrèèšì* 'he scraped him'.

CVn- ´ ` ´ -ee. *bʔaar-* 'to remove outer covering', *bʔambʔar-* 'to shell' *bʔàmbʔàreeši* 'shell it!'

CVl- ´ ` ´ -ee, -aa. **giz-* (see 3.3.2), *gilgiz-* 'to shake' *naagilgìjèèšì* 'I shook it', *naagilgìzaaši* 'I shook it (to knock something off)'.

One example of a reduplicative suffix *-VCC-* was noted. This repeats the last vowel and consonant (doubled) of the base. The example also has the *-iy-* suffix. *kar-* 'to break', *kararriy-* 'to break to pieces' *naàkàrarrìyeeši* 'I'll break him to pieces', *yaàkàrarrìyaaka* 'he'll break you to pieces'. The difference between the *-ee* and *-aa* forms is unclear.

-iy-. This is the only base formative which has been found with any other such formative on the same base. It occurs with both CVC- and *-VCC-* (see above), though not with both together. *kar-* 'to break', *kariy-* 'to break, cut (wages, price)' *yaakarìyàà mamù kudʔii* 'he cut our wages', *yaakarìyaaši guntuu guntuu* 'he broke him up into little bits'. With CVC-: *kakkariy-* 'to break up', *yaakakkàrìyààšì* 'he broke him up' (like a stick).

Suffixes *-any-*, *-s-*, and *-D-* have been noted in the following combinations: *-any-* ´ ` ´ -ee, -aa; *-s-* ´ ` -aa, ´ ` -ee; *-D-* ´ ` -aa. The base suffers loss of -V when *-any-* is added. Note that *-D-* is found only with *-aa*. This was apparently the morpheme *da* 'with', but it is here a verb formative and no longer functions as the preposition. The final vowel of the preposition is short, also, whereas the *-aa* following *-D-* is the same length as other verbs' *-aa* suffixes.

-any-. *šaa-* 'to drink', *šany-* 'to dry, drain' *naašàŋyaa namàà*, 'I put meat out to dry', *yaašaŋyèèšì* 'he drank it up'; *cii-* 'to eat', *cany-* 'to eat up' *yaacaŋyaa ʔàbincii* 'he ate up all the food', *yaacaŋyàà kudʔinšì* 'he used up all his money'.

-s- *gay-* 'to tell', *gays-* 'to greet' *mùtàfi // mùgaysèèšì* 'let's go and greet him', *mungaysààši* 'we greeted him'.

-D- *gay-* 'to tell', *gayD-* 'to greet' *mùtàfi // mùgaydàà ʔàlhajì* 'let's go and greet the Meccan pilgrim'; *baa-* 'to give', *baaD-* 'to give away' *yaabaadààši* 'he gave it away'.

4.3. Formation of the stem. The stem is formed by the addition of a tone

set and suffix to the base. This tone set consists of one or more tone patterns, the use of each being determined by context (see 4.5). The sets are indicated in the discussion by what may be considered the 'key' patterns, usually that after *yaa-* (*šii* + ' ', see 2.3.3). The following combinations of tone sets and final vowels were noted:

'	-zero	' ' -ee/-i, -aa, -u, -i	' ' '	-aa	' ' ' ' -ee
'1	-zero, -ee, -oo	' ' -ee -aa, -u, -i	' ' ' -ee/-i		' ' ' ' -ee, -aa
' (')	-zero	' ' -ee -aa, -oo, -i	' ' ' -ee -aa		' ' ' ' -ee
' - '	-zero		' ' ' -oo		

4.3.1. Interrelations of stems.[2]

' ' -ee and ' ' ' -ee are usually intensive in contrast to ' ' -ee/-i and ' ' ' -ee/-i. E.g. *ʔ(e)b-* 'to take some from', *yaaʔèèbeešì* 'he fetched a little of it', *yaaʔeebèèšì* 'he fetched a lot of it'. *bug-* 'to beat', *yaabùgeešì* 'he beat him', *yaabugèèši* 'he beat him badly'. *ʔams-* 'to receive', *naaʔàmšeešì* 'I received it', *naaʔamšèèši* 'I received it back' (it being my own).

Differences between ' ' -ee and ' ' -aa are hard to determine, but one clear case is *nikʔ-* 'to grind', *naanikʔàà daawàà* 'I ground guinea-corn', *kànikʔèèšì dà lafkii* 'grind him to powder!' Here ' ' -aa is used of grinding grain, while ' ' -ee has an extended meaning, that of 'grinding' people.

-oo usually indicates 'hither' in contrast to *-aa, -ee*, etc. E.g. *ʔayk-* 'to send', *yaaʔàykeešì* 'he sent him', *yaaʔaykà*à*šì* 'he sent him thither', *yaaʔaykooši* 'he sent him here'. *taf-* 'to depart', *yaatàfi* 'he went', *yaatafoo* 'he departed to come here, he came'. *koom-* 'to return', *yaakoomàà // gidaa* 'he returned home (there)', *say kaàkoomoo* 'till you return (here)'.

4.3.2. Object of verb's action.

Four usages of the verb stem may be distinguished in regard to the object of the action:

1. Object expressed (noun or pronoun)
2. Object implied
3. Subject of the verb the object of the action
4. Intransitive.

It is sometimes difficult to tell whether the object is implied or the subject is the object of the action. The following are interrelations of tone sets with regard to these types:

' ' -u ' ' -u may express usages 2–4, but no case of these with object expressed was noted. E.g. *saam-* 'to get possession of', *yaasaamù* 'he received'. An object is always implied. *mut-* 'to die', *yaamutù* 'he died'. *bug-* 'to beat', *yaabùgu* 'he became drunk' (i.e. was beaten). *gam-* 'to put together', *yaagàmu dà kuuraa* 'he met a hyaena' (i.e. was put together with).

With *-ee/-i* the object is practically always expressed, the final vowel being *-ee* before pronouns and *-i* before nouns. Two examples have been noted of their use with object implied: *dʔawk-* 'to take', *dʔàwki tàfi* 'take (him) and go!'; *zaabʔ-* 'to choose', *kàtàfi // kàzààbʔee* 'go and choose!' Usually, however, the object implied usage is expressed by ' ' -aa or ' ' -aa, the meaning paralleling that of the same base with ' ' -ee/-i. E.g. *dʔawk-* 'to take', *kàdʔawkàà // tàfi* 'take (him)

[2] Compare MGSH 27–29, LHS pp. 52–54. There is also a good deal in PH, e.g. 105, 112, 113ff.

and go!', *kàdⁱàwkeeǰì* 'take him!'; *ⁱams-* 'to receive', *yaaⁱamsàà* 'he received (it)', *yaaⁱàmǰeeǰì* 'he received it', *naaⁱàmǰì wannàn* 'I received this'; *ⁱ(e)b-* 'to take some from', *yaaⁱiibàà* 'he fetched a little', *yaaⁱèèbeeǰì* 'he fetched a little of it'.   However, in other verbs both ' ' *-aa* and ' ' *-aa* may have object expressed or implied.   The same relation exists between ' ' ' *-ee/-i* and ' ' ' *-aa*.

    ' ' *-i* and ' ' *-ee* are both used to indicate action upon the subject.   (' ' *-ee* is also found with object expressed.)   E.g. *bⁱadd-* 'to lose', *yaabⁱaccèè* 'he's lost'; *bⁱaat-* 'to spoil', *yaabⁱaacì* 'he's spoiled'.

    4.4. Affixes to the stem.

    4.4.1. Prefixes.   The pronominal prefixes have been treated in 2.3.3 and may be summarized (numbers refer to pronoun chart in 2.3.3):

Perfective—*naa-* (2) with ' '

Negative perfective—*bà—ba* plus *ǹ-* (11)

Future—*naa-* (2) with ' '

Optative—*ⁱìn-* (10)

Negative optative—*kadà-* plus *ⁱìn-*

The negative of the future is rare, another construction (*baà-* plus pronoun before a verbal noun, deverbal noun, or verb phrase used as a noun) usually being used.   One example was, however, noted: *bàkaàlààǰì hancìnkà bà* 'you'll never lick your nose'.   The optative is used independently to express a wish, though the second person is no more than a substitute for the imperative.   It is also used after other verbs, such as 'wish', 'cause', etc.

    The imperative morpheme (!) may be considered a prefix, also (actuallized as zero but affecting the tone pattern [see below]).

    The stem is rarely found without one of the above prefixes.   Several examples with noun subject where the stem is without prefix have been noted.   E.g. *ⁱallà baamù duuniyàà // mùyi hàwkaa // ⁱallà baamù duukìyaa // mùkaǰèèta* 'God has given us the world; let's act crazily.   God has given us property; let's waste (lit. kill) it!' (song).

    4.4.2. Elements (not all affixes) following verb stem.   The elements which follow the verb stem and affect it as to tone and final vowel are: pronoun object (2.3.3, chart 5, 8), *-waa*, and noun object.   In the following lists *-ǰi* will represent the pronoun objects.   *-waa* occurs only with stems which may not act as nouns (see 3.2.2).   It is found with verb stems without prefixes, i.e. the prefixes and *-waa* are mutually exclusive.   A stem followed by *-waa* occurs in noun position syntactically (e.g. after *ǰinà*).   Compare the indefinite pronominal element *wa-* (2.3.5).

    4.5. Tone sets.   The following are the tone sets noted with the individual patterns belonging to each and the possible suffixes to the base.   The forms after *ǰinà* function syntactically as nouns but are verbal in form.

    4.5.1. ' -zero.

    ' optionally after *bàn-*, *yaà-*, *kà-*[3] (i.e. a preceding low tone) before noun object, or without object.

    ' elsewhere.

    [3] Single prefixes and suffixes here stand for whole paradigms (see 2.3.3).

Verbs with this pattern are *bii-* 'to follow', *cii-* 'to eat', *fii-* 'to surpass', *jii-* 'to perceive', *yii-* 'to do, make', *soo-* 'to want'. Before noun object *-ii* is replaced by *-i*. E.g. *bii-* 'to follow': ' *kàbì hanyàjjirgii* 'follow the railroad!'; ' *kàbi mùtum wannàn* 'follow that man!', *kàbiišì* 'follow him!', *dˀayaa taabi dˀayaa* 'one followed another'. *cii-* 'to eat': ' *gòòbee naàcì ˀàbincii* 'tomorrow I'll eat food', *nii bàncì ˀàbincii ba* 'I didn't eat food'; ' *naàcii* 'I'll eat', *kadàkàciišì* 'don't eat him!', *nii bànci ba* 'I didn't eat', *munci kààmaa* 'we ate roast meat', *ˀinà soò ˀìnci ˀantakkààjii* 'I want to eat chicken liver'. *jii* 'to perceive: ' *nii bànjì dukà bà* 'I didn't understand everything', *naayii makà // kàjì kunyà* 'I made you feel ashamed', *bàyjì hawsaa ba* 'he didn't understand Hausa'); ' *kuuraa taaji kàree* 'the hyaena heard the dog', *kay // bàkàji tàwsàyii ba* 'you feel no pity', *nii bànji dà kyaờ bà* 'I didn't understand well', *kadàkàjiišì* 'don't listen to him!'. *yii-* 'to do, make': ' *kooˀìnaa // kaajee kaàyì gidaa* 'wherever you go, you'll make a home', *suờyì dòòka* 'they're going to make an order'; ' *sunyi dòòkaa* 'they made an order', *ˀallà // yaayiinì* 'God made me', *naàyii* 'I'll do (it)', *kàyi màganà* 'speak!', (lit. 'make speech!'). *soo-* 'to want': ' *ˀallà // yaàsookà* 'God will love you', *ˀallà // yaàsoo mùtum wannàn* 'God will love this man'.

4.5.2. '1 -zero, *-ee*, *-oo*.

' in imperative before *-ši*, sometimes before noun object

' elsewhere

Verbs taking this tone set are *bar-* 'to leave', *gaa-/gan-* 'to see', *jaa-* 'to pull', *kaaY-* 'to bring', *šaa-* 'to drink', *z-* 'to be on one's way'. E.g. *bar-* 'to leave', *-zero*: ' *bàṛni* 'leave me!', ' *yaabaṛšì* 'he left him', *yaàbaṛnì* 'he'll leave me', *kadàkàbaṛšì* 'don't leave it!', *yaabaṛ gidaa* 'he left home'. *gaa/gan-* 'to see', *-zero*: ' *gààši* 'look, there he is!' (lit. 'see him!'), *gàà bˀaawammacìijii* 'look, there's a snakeskin!'; ' *yaagaa kuuraa* 'he saw the hyaena', *yaagansì* 'he saw him', *naàgansù* 'I'll see them', *bàtàganšì bà* 'she didn't see him'. *kaaY-* 'to bring', *-zero*: ' *taakay raamìntà* 'she brought (it) to her lair'. *jaa-* 'to pull', *-zero*: ' *yaajaanì fadˀàà* 'he pulled me into fighting', *yaajaa ˀìgiyàà* 'he pulled the rope'. *šaa-* 'to drink', *-zero*: ' *šaa noonòò* 'drink milk!', *yaàšaašì* 'he drank it', *yaašaa bààṛààsaa* 'he drank liquor', *bàànì ruwaa ˀìnšaa* 'give me water to drink!'. *z-* 'to be on one's way', *-ee* 'to go', *-oo* 'to come': ' *yaajee* 'he went', *yaazoo* 'he came', *šii yaàzoo // nii naàzoo* 'he's coming and I'm coming', *zoo naờ* 'come here!', *zoo dà mààrèècee* 'come in the evening!'.

4.5.3. ' (') -zero.

' in imperative before *-ši*, noun object.

' before pronoun elsewhere

' ' in all other positions

The only verb noted with this tone set is *baa-* 'to give': ' *bàànì ruwaa ˀìnšaa* 'give me water to drink', *bàà màataa wannàn fuṛàà* 'give this woman fura!'; ' *naabaakà ˀita* 'I have given her to you', *naàbaakà ˀàbù wannàn* 'I'll give you this', *ˀallà yàbaakà gaafaràà* 'may God give you pardon'; ' ' *yaabaà mààtaššì dafìì* 'he gave his wife poison', *naabaà sarkii* 'I gave to the king'.

4.5.4. ' - ' -zero, *-oo*.

' - ' in all forms recorded.

Verbs having this pattern are *cee-* 'to say', *saa-* 'to put', *z-* 'to be on one's way'. E.g. *cee-* 'to say', -zero: *kaaji ?àbin//dà yaaceè?* 'did you understand what he said?', *naaceè masù* 'I said to them', *kuuraa taaceè wannàn* 'the hyaena said this', *nii bànceè koomii ba* 'I didn't say anything', *mìineenèè // zaànì ceè* 'what shall I say?', *?àbin//dà kanà ceèwaa* 'the thing you're talking about'. *saa-* 'to put, place' -zero: *saà rìigaa* 'put on some clothes', *saàšì gà wutaa* 'put it in the fire!' (*kàsaà* more common), *?allà kàsaà // ?ìngaa ?ànnabì* 'God grant (lit. place) that I see the prophet!', *kadàkàsaà lìttaafìì nañ* 'don't put the book here!', *nii baàni sadwaa nañ* 'I won't put (it) here', *naasaà nañ* 'I put (it) here', *naasaàšì nañ* 'I put it here', *sunsaà màsaà kaayaa* 'they put a load on the ox (*saà*)'. *z-* 'to be on one's way', *-oo* 'to come (hither)': *zoò nañ* 'come here!', *kàzoò nañ* 'come here!', *kadàšìzoò nañ* 'may he not come here!', *muñzoò nañ* 'we'll come here', *šìnà zoòwaa* 'he's coming'.

4.5.5. `' ' -ee/-i.`

`' '` in imperative before noun object, optionally elsewhere with noun object.
`' '` elsewhere.

This is a very common form. *-ee* occurs before pronoun object (*-ši*) and *-i* before noun object (but see also 4.3.2). E.g. *saam-* 'to get possession of', *-ee/-i* 'to get, receive': `' '` *naasààmì daamaa* 'I got an opportunity', *kaàsààmì duuniyàà* 'you will get the world', *šìnà soonyàsààmì k?waarii gà ?ìbìliišìì* 'he wanted to receive magical power from the demon', *nii bànsààmì daamaa ba* 'I didn't get a chance'; `' '` *kaàsààmi kùlakkà // yaw* 'you'll get your care today', *wani ?àbu yaasààmeešì* 'something happened to (lit. got) him'. *duub-* 'to look', *-ee/-i* 'to look at': `' '` *dùùbì baayankà* 'look behind you!', *naadùùbì gusùn* 'I looked South'; `' '` *yaadùùbeenì* 'he looked at me', *kàdùùbeešì* 'look at him!', *rààk?umii // màyduubanneesà bàkàdùùbi kusaa ba* 'O farseeing camel, you don't look at (any-thing) nearby'. *bug-* 'to beat', *-ee/-i* 'to beat a little': `' '` *bùgì ?abdù gà bààki* 'hit Abdu on the mouth!', *yaabùgì mààtaššì* 'he beat his wife' (optionally:) `' '` *yaabùgi mààtaššì, yaabùgeešì* 'he beat him', *yaàbùgeešì* 'he'll beat him'. *hayf-* to bear (a child)': `' '` *taahàyfì yaaròò* 'she bore a boy'; `' '` *taahàyfi namijì* 'she bore a male (child)', *taahàyfeešì* 'she bore him'.

4.5.6. `' ' -aa`

`' '` before noun object
`' '` elsewhere

E.g. *jik?-* 'to wet', *-aa* 'to be wet' (`' ' -aa` 'to wet'): `' '` *taajìk?aa* 'it's wet'. *saY-* 'to buy', *-aa* 'to buy (it)' (`' ' -ee` 'to buy', trans.): `' '` *naasàyaa* 'I bought (some-thing)'. *šig-* 'to enter': `' '` *dukà sàmà`rii // sunšìgàà soojà* 'all the young men have become soldiers', *yaašìgàà ruwaa* 'he went into the water', *hakìì // yaašìgàà ?idòònaa* 'a grass got in my eye'. *cik-* 'to fill', *-aa* 'to be filled, fill': `' '` *naacìkàà guurìinaa* 'I fulfilled my greatest ambition'; `' '` *yaacìkaa* 'it's full'. *kul-* 'to care for': `' '` *kùlaa dà šii* 'take care of him!', *naakùlaa dà suu* 'I took care of them', *kadàkàkùlaa dà šii* 'don't care anything about him!', *bàmùkùlaa dà šii ba* 'we don't care anything about him', *?ìnà kulààwaa* 'I'm always mindful (of it)', *nii bànkùlaa ba* 'I don't care'.

4.5.7. `' ' -u`

`' '` in all positions noted

This form is never transitive. It is not very common.

E.g. *gam-* 'to put together', *-u* 'to meet' (with: *dà*): *tàfi // gàmu dà šii* 'go meet him!', *mungàmu* 'we met', *mùgàmu* 'let's meet', say *mungàmu dà ʔàlfeeɍìi* 'until we meet in fortunate circumstances!', *nii bàngàmu dà šii ba* 'I didn't meet him'. *taar-* 'to gather', *-u* 'to meet together': *suntàaru // wani wajee* 'they met together someplace', *kùzoo // mùtàaru* 'come (ye), let's meet together!'. *saam-* 'to get possession of', *-u* 'to take place': *yaasàamu // kusaa dà ɍaanaa sʔakà* 'it took place near noon.'

4.5.8. ` ' -*i*

` ' in imperative

` ' or ` ' optionally elsewhere

This combination is rare. No transitive forms were noted.

E.g. *kʔoos-* 'to be full, mature', *-i* 'to be full of food': ` ' *yaaci yaakʔòòši* 'he ate and became full'. *taf-* 'to depart, go': ` ' *yaatàfi haʔʔàbàdaa* 'he's gone forever', *kaàtàfiʔ* 'are you going!', *tàfi // gàmu dà šii* 'go meet him!', *tàfi // dàfšeeši* 'go hit him in the mouth!', *yaagayàà manì // nii kadàʔìntàfi* 'he told me not to go', *yaàtàfi gàbammù* 'he's going to go in front of us'; ` ' *gizòò yaatàfi gidansarkii* 'the spider went to the house of the king', *jìibii nii naàtàfì gidanjirgìi* 'the day after tomorrow I'm going to the railroad station', *wànì lòòkacììnee // kaatàfì gidaa jiyàà* 'what time did you go home yesterday?'.

4.5.9. ` ` -*ee*

` ' in imperative before noun object

` ' in imperative otherwise

` ` elsewhere

This form is very common and contrasts with ` ` -*ee/-i* and ` ` -*aa* (see 4.3.1). It has intensive force in most cases.

E.g. *kwabʔ-* 'to release from': ` ` *kwàbʔeeši* 'take it off!', *kwàbʔee manì gàatarii* 'take off (the head) from my axe'; ` ` *naakwabʔèèšì gà bʔootàà* 'I removed it from the handle', *kàkwabʔèèsù* 'release them!', *ʔallà kàkwabʔèè manì ʔaykìn//dà naasanì* 'God, keep me from doing what I know (is wrong)'. *rIf-* 'to cover': ` ` *rìfèè raamìì* 'cover the hole!', *rìfèè bààkinkà* 'shut your mouth!'; ` ` *kàrifèè raamìì wannàn* 'cover that hole!', *naarifèè ʔàsirinšì* 'I kept (covered) his secret'. *dwaadʔ-* 'to plug up a hole': ` ` *dwààdʔèè kʔoofàà* 'plug the hole!', ` ` *dwààdʔeeši* 'plug it up!'; ` ` *kaadwaadʔèèši* 'you have plugged it up'. *zaar-* 'to take one or more from a larger number': ` ` *zàarèè wannàn* 'take this one (out)!'; ` ` *zàareeši* 'take it (out)!'; ` ` *yaazaarèèšì* 'he took it out', *sunà zaarèèwaa* 'they are taking (some) out'. *ʔaz-* 'to place, put', *-ee* 'to leave, keep': ` ` *ʔàjee manì wannàn* 'keep this for me!', *ʔàjeeši* 'keep it!'; ` ` *naaʔajèèšì* 'I left it', *naàʔajèèšì* 'I'll leave (or keep) it', *naàʔajèè lìttaafìì* 'I'll keep the book', *kàʔajèè manì wannàn* 'keep this for me!', *ʔinà ʔajèèwaa* 'I'm keeping (it)'.

4.5.10. ` ` -*aa*

` ' optionally in imperative before -*ši* or noun object

` ' in imperative otherwise

` ` elsewhere

This combination is found with many two syllable verbs.

E.g. *duub-* 'to look': ` ` *dùùbààši* 'look at him!', *dùùbàà bisà* 'look up!', *dùùbàà fuskàssù* 'look at their faces!'; ` ` *dùùbaaši* 'look at him!', *dùùbaa tàmraaruwaa* 'look at the star!', *dùùbaa // dà kyaὺ // dʔankanòònee* 'look out well; he's from

Kano!'; ' ' *yaaduubààši* 'he looked at him', *kàduubàà bààk²oo wannàn* // *dà kyaŵ* 'look at that stranger well!', *kàduubàà* // *dà kyaŵ* 'look well!', *šinà duubààwaa* 'he's looking'.   *bug-* 'to beat': ' ' *bùgàà yaaròò wannàn* 'beat that boy!', *bùgàši gà kumcìì* 'beat him in the jaw!'; ' ' *bùgaaši* 'beat him!'; ' ' *yaabugààši* 'he beat him', *naàbugààkà* 'I'll beat you', *yaabugàà dookìì* 'he beat the horse', *²inà bugààwaa* 'I'm beating (it)'.   *gam-* 'to put together', *-aa* 'to put together, finish': ' ' *gàmàà ²aykìì wannàn* 'finish this work!'; ' ' *kàwdàbààraa* // *gàmaata dà goociyaa* 'combine a good-luck charm with dodging' (lit. 'a charm, put it with dodging'); ' ' *yaagamààsù fad²àà* 'he put them to fighting', *naagamàà* 'I've finished', *naagamàà ²aykìinaa* 'I've finished my work'.   *gwad-* 'to show, measure': ' ' *gwàdaaši* 'measure him!', *gwàdaa mašì* 'show him!'; ' ' *yaagwadàànì* 'he measure me', *yaagwadàà manì* 'he showed me'.

4.5.11. ' ' *-u*
' ' in all position noted
This form is never transitive and is not very common.
E.g. *mut-* 'to die': *yaamutù* 'he died'.   *hayf-* 'to bear (a child)', *-u* 'to be born, to bear (intr.)': *nii naahayfù* // *kàc²inà* 'I was born in Katsina', *²àkwiyàà* // *taahayfù* // *yaŵ* 'the she-goat gave birth today'.   *saam-* 'to get possession of', *-u* 'to receive (something)': *kaasaamù* 'you have received (magical power)', *koomii kaasaamù* // *²àduuniyàà* 'everything you have received in the world'.

4.5.12. ' ' *-i*
' ' in imperative
' ' elsewhere
This form is rare and most examples are intransitives.
E.g. *faad²-* 'to fall': *yaafaad²ì* 'he fell'.   *taas-* 'to rise': ' ' *tààši* 'get up!'; ' ' *yaataašì s²àyee* 'he stood up', *naàtaašì* 'I'll get up', *bàytaašì bà* 'he didn't get up', *kadàkàtaašì* 'don't get up!'.   *fas-* 'to break', *-i* 'to be broken': ' ' *leeb²wànšì* // *yaafašì* 'his lip cracked'.   *fad²* 'to tell', *-i* 'to tell (someone)': ' ' *yaajee yaafad²ì* 'he went and told (them)'.   *b²aat-* 'to spoil', *-i* 'to be spoiled': ' ' *yaab²aacì* 'he's spoiled'.

4.5.13. ' ' *-ee*
' ' In all forms recorded (imperative not recorded)
This form is very rare.
E.g. *gays-* 'to greet': *mungayšeešì* 'we greeted him', *naàgayšeešì* 'I'll greet him', *mùtàfi* // *mùgayšeešì* 'let's go and greet him!', *²àgayšeekà* 'bravo!'.

4.5.14. ' ' *-aa*
' ' in imperative (only recorded before *-ši*)
' ' elsewhere
This combination is rather rare.
E.g. *biy-* 'to pay': ' ' *bìyaaši* 'pay him!'; ' ' *yaabiyaanì* 'he paid me', *kàbiyaašì* 'pay him!', *kàbiyaa màynaamàà* 'pay the butcher!', *kadàkàbiyaa* // *dà yawà* 'don't pay too much!'.

4.5.15. ' ' *-oo*
' ' in imperative
' ' elsewhere
This is the most common of the formations with ' '.

E.g. *kaaY-* 'to bring', *-oo* 'to bring hither': ' ' *kàǎwooši* 'bring him here!'; ' ' *ʔin kaakaawoo naamàà* 'if you bring meat . . . ', *ʔallà šìkaawookà laafiyàà* 'God bring you back safely!', *kàkaawoo bèèlinkà gidaanaa* 'bring your flute to my house!'. *koom-* 'to return', *-oo* 'to return hither': ' ' *yaàkoomoo baayaa* 'he'll come back here', *yaakoomoo gidaa* 'he returned home (here)', *ʔìnkoomoo* 'let me return (here)'. *saY-* 'to buy', *-oo* 'to buy (and return here with)': ' ' *sàwoo naamàà* 'buy meat (and bring it back)', *sàwooši* 'buy it (and bring it back)', *nii naasawookì* 'I have bought you (f.)', *ʔin naàjee // nii naàsawoo wani ʔàbu* 'if I go, I'll buy something (and bring it back)'. *taf-* 'to depart', *-oo* 'to depart to come hither, to come': ' ' *yaatafoo* 'he came', *gàǎši yaàtafoo* 'look, he's coming!'. *gan-* 'to see', *-oo* 'to see someone who is far off': ' ' *muntàfi // munganooši* 'we went and saw him', *kàjee // kàganooši* 'go and see him!'. *safk-* 'to descend', *-oo* 'to descend hither': ' ' *sàfkoo kʔasà* 'come down (here)', *sàfkoo nañ* 'come down here!'; ' ' *yaasafkoo kʔasà dàgà tudù* 'he came down (here) from the hill'.

4.5.16. ' ' -i

' ' in imperative

' ' or ' ' elsewhere

No rule can be set up for the interchange of ' ' and ' ', though it does not seem to be at random. Some verbs are more frequently found with one rather than the other. E.g. *san-* 'know' usually has ' ', *gan-* 'see' usually has ' '.

E.g. *bar-* 'to leave': ' ' *farinwatàà // bàri gàǎsaa dà ɣaanaa* 'white moon, leave off vying with the sun!'; ' ' *kadàkàbarì* 'don't leave (it)!'; ' ' *yaabari gidaa* 'he left the house', *kàbari gàbaatà* 'leave your worry!'. *gan-* 'to see': ' ' *naagani gidaa* 'I saw the house', *mii kaagani* 'what did you see?', *nii bàngani ba jirginkaayaa* 'I didn't see the freight train', *tàfi kusaa // kàgani* 'go up close and see!'. *san-* 'to know': ' ' *kay kaasanì // naasanìʔ* do you know I know?', *nii bànsanì bà* 'I don't know', *nii bànsanì koomii ba* 'I don't know anything'; ' ' *bàtàsani macììjii banèè* 'she didn't know he was a snake'.

4.5.17. ' ' ' -aa

' ' ' in all certain forms recorded

This form is rare and apparently occurs only with object implied. The object expressed equivalent is ' ' ' *-ee/-i*.

E.g. *tangaz-* 'to redirect', *-aa* 'to head off': *kàtàngazàà wani wajee* 'head (them) off somewhere!'. *kangar-* 'to be invincible': *yaakàngaràà* 'he's invincible'. *rinjaay-* 'preponderate' (BD), *-aa* 'to be off balance': *yaarìnjaayàà* 'it's off balance'. *gaagar-*, *-aa* 'become surly, out of hand' (BD): *yaagààgaràà* 'he's unmanageable'. *keeway-*, *-aa* 'to surround': *kùkèèwayàà* 'surround (it)!'.

4.5.18. ' ' ' -ee/-i

' ' ' in imperative before *-ši*, optionally before noun object anywhere

' ' ' elsewhere

This is a common form, occurring only with object expressed.

E.g. *ʔagaz-* 'to help': ' ' ' *yaaʔàgàjeenì* 'he helped me', *kàʔàgàjeenì* 'help me!', *kùʔàgàji gàjìyayyee* 'help the helpless!'. *ʔambat-* 'to mention': ' ' ' *yaaʔàmbàcì suunanši* 'he mentioned his name', *šìnà ʔàmbàcì suunankà* 'he's mentioning your name'; ' ' ' *naaʔàmbàceeši* 'I mentioned him', *šìnà sooñ//šìʔàmbàceenì* 'he wants to mention me', *kadàkàʔàmbàceeši* 'don't mention him!'. *fatawt-* 'to trade':

` ` ` *yaafàtàwcì ʔàbù wannàn* 'he traded this thing'; ` ` ` *yaafàtàwceešì* 'he traded in it'. *tambay-* 'to ask': ` ` ` *tàmbàyèèši* 'ask him!'; ` ` ` *yaatàmbàyi sarkii* 'he asked the king', *kàtàmbàyeešì* 'ask him!'. *taymak-* 'to help': ` ` ` *wani bàytàymàkì wani ba* 'one doesn't help another'; ` ` ` *yaatàymàkeesu kàkkabʔàà* 'he helped them beat', *kàzoo // kàtàymàkeenì* 'come help me!'. *sassakʔ-* 'to chip': ` ` ` *naasàssàkʔì ʔiccèè* 'I chipped the wood'; ` ` ` *naasàssàkʔeešì* 'I chipped it'. *bʔalgat-* 'to break off a little piece from': ` ` ` *nii bàmbʔàlgàceešì bà* 'I didn't break a piece off it', *bʔàlgàci kàdʔan* 'break off a little', *naabʔàlgàci kàdʔan* 'I broke off a little'.

4.5.19. ` ` ` *-ee* and *-aa*
` ` ` in imperative before noun object
` ` ` in imperative otherwise
` ` ` ` before *-waa*
` ` ` or ` ` ` elsewhere (` ` ` more common)

Most verbs taking tri-tone patterns may have these combinations.

E.g. *kakkabʔ-* 'to beat', *-ee* 'to beat to knock something off a thing': ` ` ` *kàkkàbʔèè rììgakkà* 'brush off your coat'; ` ` ` *kàkkàbʔeeši* 'beat it (to knock something off it)!'; ` ` ` *kàkakkàbʔèè bangoo* 'knock (the cobwebs) off the wall!'; ` ` ` *kàkakkàb-ʔeeši* 'beat it!' (as above). *ʔaykat-* 'to work (something)', *-aa*: ` ` ` *ʔàykàtàà ʔàbù wannàn* 'work this thing!'; ` ` ` *ʔàykàtaaši* 'work it!'; ` ` ` ` *ʔinà ʔaykàtaàwaa* 'I'm working (something)'; ` ` ` *naaʔaykàtàà* 'I worked (it)', *naaʔaykàtààšì* 'I worked it', *kùʔaykàtàà wannàn* 'work (ye) this!'; ` ` ` *kùʔaykàtaaši* 'work (ye) it!'. *gilgiz-* 'to shake', *-ee* 'to shake an inanimate thing': ` ` ` *gìlgìjeeši* 'shake it!'; ` ` ` *naagilgìjèèšì* 'I shook it hard'; *-aa* 'to shake an animate thing': ` ` ` *gìlgìzaasu kàdʔan* 'shake them a little!'; ` ` ` *kàree yaagilgìzàà mààgee* 'the dog shook the cat'; ` ` ` *naagilgìzaaši* 'I shook him', *yaagilgìzaa jìnkinšì* 'he shook himself'. *šany-* 'to dry, drain', *-aa* 'to put out to dry': ` ` ` *šànyaaši* 'put it out and dry it!'; ` ` ` ` *šinà šanyaàwaa* 'he's putting (it) out to dry'; ` ` ` *naašanyaaši* 'I put it out and dried it', *naàšanyaaši* 'I'm going to put it out and dry it'. *karant-* 'to read', *-aa*: ` ` ` *kàràntàà takàrdaa* 'read the paper!', ` ` ` ` *baàyà ʔiyàà karàntaàwaa* 'he can't read'; ` ` ` *yaakaràntàà* 'he read', *yaakaràntàà takàrdaa* 'he read the paper'; ` ` ` *kàkaràntaaši* 'read it!'. *ʔaadan-, -aa* 'to put in safe keeping, keep': ` ` ` *ʔààdànaaši* 'keep it (safely)!', *ʔààdànaa manì wannàn* 'keep this for me!'; ` ` ` *kàʔaadànaaši* 'keep it (safely)!'. *tankʔwas-* 'to bow', *-ee*: ` ` ` *tànkʔwàšee kàdʔan* 'bow down a little!'; ` ` ` *nii naatankʔwàšee* 'I bowed down'.

4.5.20. ` ` ` *-oo*
` ` ` in imperative (only noted with *-ši*)
` ` ` elsewhere

E.g. *tangaz-* 'to redirect', *-oo* 'to round up': ` ` ` *tàngàzoosù* 'round them up!'; ` ` ` *yaatangazoošì* 'he rounded him up', *kàtangazoosù* 'round them up!', *kàtangazoo bisààšee* 'round up the animals!'. *tattar-* 'to gather' (only recorded with *-oo*): ` ` ` *kùtattaroo* 'come meet together (for worship)'.

Examples of verb stems of four syllables are rare, but the following were noted:
4.5.21. ` ` ` ` *-ee*

ʔazaabant- 'to give someone a hard time': *yaaʔàzààbànceešì* 'he gave him a hard time', *kàʔàzààbànceešì* 'make it hard for him!', *ʔàzààbànceešì* 'make it hard for him!'.

4.5.22. `` ′ ` ′ *-ee, -aa.*   Compare ′ ` ′ *-ee, -aa* 4.5.19.

kararriy- 'to break into little pieces': *naàkàrarrìyeeši* 'I'll break him to pieces', *yaàkàrarrìyèèšì* 'he broke him into bits', *yaàkàrarrìyaaka* 'he'll break you to pieces', *yaakàrarrìyaašì* 'he broke him into bits'.

4.5.23. ′ ′ ` ′ *-ee*

ragwaṛgwaz- 'to break to pieces': *naàṛagwaṛgwàjeeši* 'I'll break him to pieces', *šinà ṛagwaṛwàjeeši* 'he's smashing him to pieces'.   *ṛugurguz-* 'to be broken up': *yaadàfu //* tay *yaaṛugurgùjee* 'it cooked until it fell apart'.   *ṛugurgud?-* 'to be broken to pieces': *yaaṛugurgùd?ee* 'it's broken to pieces'.

4.5.24. ′ ` ′ ′ *-ee, -aa.*

If *-riy-* in the following example be interpreted as *-ry-*, the pattern would be ′ ` ′.   It is here considered a stem extended by the suffix *-iy-* and hence *-riy-* (4.2.3).   *kakkariy-* 'to break (like a stick)': *yaakakkàrìyeeši* 'he broke him up', *yaakakkàrìyaašì* 'he broke him up'.[4]

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[4] It should be added that the value of the longer examples is uneven as regards tone phrase juncture.   Many have no junctures marked where checking would reveal several. In general there is a juncture before a verb (i.e. between adverb or noun subject and verb) and before an adverb or prepositional phrase after the verb.

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